

Revealing the Information-Seeking Experiences and Needs of Older Adults in a Rural Saskatchewan Community

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Abstract

For the first time, more Canadians are over the age of 65 than under 15. A quarter of these seniors live in rural settings where communities struggle to provide the supports and services needed to age in place. Access to information and awareness of available resources is essential for successful aging in place. Despite living in an era where information seems readily available and accessible, research has shown older adults are often uninformed and disconnected. This may contribute to low service awareness and usage, challenges in system navigation, and high hospitalization rates. This research explores the information-seeking experiences and needs of older adults in one rural Saskatchewan village using case study methodology. Data collection methods included: a village-wide questionnaire for those 60 and over; interviews with older adults and stakeholders; and direct observation.

The results of this research are consistent with previous research, revealing a paucity of local information resources. Lack of information is connected to the scarcity of local services and to lack of clarity regarding regional jurisdictional responsibility for this rural village. This study found that the preferred method of information dissemination is word-of-mouth. However, the absence of local services and geographic isolation of rural communities necessitates travel, which increases the challenge of obtaining in-person information. Additional challenges in finding information are encountered due to auditory and visual impairments among seniors, making the use of information sources outside of face-to-face contact challenging. While many organizations have moved towards web-based information to increase information access for rural and remote areas, this study reveals that older adults in the research community do not use technology enough to benefit from online information. However, the greatest strength of rural communities is a social environment that provides opportunity for information exchange. Informal caregiving practices and volunteerism within the community increases information flow, and improves the likelihood that information will reach even vulnerable older adults. Overall, this study finds that more needs to be done to improve access to information. Future research could focus on the development of interventions in consultation with rural older adults to best meet their information needs.

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Chapter 1: Introduction

1.1 Introduction

For the first time in Canada, adults aged 65 and over outnumber those under the age of 15 (Statistics Canada, 2016). Currently, 17% of the Canadian population consists of adults 65 plus, and is predicted to reach 25% by 2031 (Statistics Canada, 2016). This demographic shift brings many to question whether there is adequate infrastructure and resources to meet the needs of an aging population. The goal of providing for an aging population is to keep them as independent and healthy as long as possible. Older adults should be seen as a valuable resource to communities, as they often make up a large portion of volunteers and contribute greatly to the functioning of their communities (Altizer, Grzywacz, Quandt, Bell & Arcury, 2014). Keeping older adults engaged is not only important for the well-being of a community, but on an individual level, community engagement through social participation is strongly connected to good health throughout life (World Health Organization [WHO], 2007). However, staying engaged and connected becomes a challenge with age. Despite living in an era where information comes in an abundance of forms and venues, older adults are often uninformed and disconnected from their communities (Everingham, Petriwskyj, Warburton, Cuthill, & Bartlett, 2009). Having appropriate methods of communication and dissemination is fundamental for maintaining independence, and the health and activity essential to sustaining quality of life for older adults (Bowling, 2006; Everingham et al., 2009; Yates, Partridge, & Bruce, 2009).

In 2007, as the result of international research, the World Health Organization (WHO) published the influential paper: *Global age-friendly cities: A guide*. This guide covers several topics pertaining to the health of aging of populations, and has had a significant impact on policy and research directions taken across Canada. Age-friendly initiatives have been implemented through government action plans in all but one province and territory, Saskatchewan and the Yukon (Government of Canada, 2015). The Age-friendly Guide places communication and information within the context of age-friendly communities and aging in place. Through their research, the WHO (2007) found that while many resources for older persons may exist in a city, older adults are unaware of them, which can lead to underutilization of available resources. Existing literature is consistent with this observation, demonstrating that aging populations suffer due to lack of information (Everingham et al., 2009; Martinez-Donate et al., 2013; Newell,

Lyons, Martin-Misener, & Shearer, 2009; Public Health Agency of Canada [PHAC], 2006; Ryser & Halseth, 2013; WHO, 2007). Furthermore, the Age-friendly Guide specifies that to maintain quality of life over time the information needs of older adults go far beyond immediate health concerns (WHO, 2007). The information needs of an aging population are incredibly diverse and context-dependent, however few researchers have explored beyond health-information needs (Everingham et al., 2009; PHAC, 2006; WHO, 2007).

Current studies investigating the information needs of older adults often assume that disease and illness are what guide information seeking (Bourke, 2001; Engelman et al., 2005; Martinez-Donate et al., 2013; Volkman et al., 2014). This approach leads us to believe that aging is defined by biological health, and therefore those experiencing aging would only be concerned with their physical health (i.e., physical disability, functional decline, declining cognitive performance) (Blazer, 2008; Bowling, 2006). Current research has therefore been limited by the biomedicalization of the concept of health and aging. However, studies exploring individual perceptions of health and aging have found the biomedical definition to be too narrow, limiting the understanding of information-seeking behavior (Blazer, 2008; Bowling, 2006; Harrod, 2011; Kotter-Gruhn & Hess, 2012). As an example, a study investigating lay perceptions of the definition of successful aging found that lay concepts include mental, physical and social health, having a sense of purpose, financial security, learning new things, contribution to life, and productivity (Bowling, 2006). Given that these individuals define successful aging in a variety of ways, their information needs are diverse and encompass more than immediate medical-health information. For example, if an individual believed successful aging was defined by financial security, then they may be more likely to seek out information pertaining to their finances and financial future, whether that be banking, investment, or housing concerns. Allowing individuals to define their own information needs will provide greater insight into the types of information they seek in their everyday lives and what challenges and enhancers they may have in finding that information. Overall this lends itself to creating more relevant information resources in the future.

This study focuses on older adults in rural communities, as rural seniors report having worse physical health status, less use of preventative care and suffer from more chronic illnesses than their urban counterparts (Canadian Institute for Health Information [CIHI], 2011). Challenges faced by rural Canadian communities are related to higher rates of low income, lower

levels of education and higher unemployment (PHAC, 2008). Many rural communities in Canada have been struggling to adequately respond to growing health-care demands, particularly for the range of health and community services needed to maintain older people's health and wellbeing. Issues surrounding information exchange and uptake may contribute to existing disparities observed in these communities. There are limited studies published regarding information resources in rural communities, but what has been published shows a paucity of local information resources, a problem needing to be remedied in order to create healthier communities (Briggs et al., 2012; Newell et al., 2009). To compound issues further, solutions developed in an urban context are not necessarily relevant in a rural community, making it more critical to address this gap in rural research.

Research in information and communication can contribute to the development of more targeted health promotion programs and improved information dissemination about existing resources. Improving the dissemination and communication of information has the potential to create more cohesive communities, reduce social isolation, improve the utilization of existing resources, and increase the quality of life for older adults (Everingham et al., 2009; WHO, 2007). This study addresses several gaps in current information research: it is set in a rural context, it addresses information needs beyond that of the traditional biomedical view of health, and it re-contextualizes information-seeking through understanding the experiences of older adults.

1.2 Research Objective

To reveal the information-seeking experiences and needs of older adults that would support them in successfully aging in place in one rural Saskatchewan community.

Research Questions:

1. What are the information needs of older adults in rural Saskatchewan?
2. How do rural older adults find information and what influences their selection of the source of information?
3. What are the barriers and enhancers to accessing information in a rural setting for older adults?

1.3 Thesis Structure

This thesis has five chapters. Chapter 2 begins by introducing the Active Ageing Framework (WHO, 2002) and Age-Friendly Cities Guide (WHO, 2007), as well as relevant literature on information needs, seeking and access. Chapter 3 outlines the case study methodology used for this project, and describes data collection and analysis. Chapter 4 presents the results from this study, and chapter 5 re-contextualizes those results to form a cohesive description of the information-seeking experiences of rural older adults.

Chapter 2: Framework and Literature Review

2.1 Introduction

The aim of this study is to describe the information-seeking experiences and needs of rural older adults to gain a deeper understanding of how best to support them in successfully aging in place. This is consistent with the WHO's Age Friendly Cities Guide (2007), which has identified communication and information as an integral component. The Guide is underpinned by WHO's Active Ageing Framework (2002) that identifies domains of the social determinants of health that influence "active ageing". The first section of this chapter provides a description of both the Guide and the Framework as they are used throughout this study to inform data collection, analysis, and interpretation.

The literature review that follows is placed within the context of the Active Ageing Framework and describes information-seeking research from English-speaking, industrialized countries: United Kingdom, Australia, United States, New Zealand and Canada. Journal articles were included if they focused on older adults, and since literature regarding information-seeking in a rural context is sparse, the review was not confined to studies set in rural areas. Further, while this study goes beyond health information needs to other information needs relevant to successful aging in place, the majority of information-seeking literature focuses solely on 'health information'. These studies are included in this chapter to provide a deeper understanding of current information-seeking research and reveals that research focused on medical-health information needs is limiting.

2.2 Framework

The World Health Organization developed the Active Ageing Framework (Figure 1; WHO, 2002) to apply a "senior's lens" to policy and program development by both government and non-governmental organizations to support the changing demographic. Active ageing is defined as "the process of optimizing opportunities for health, participation and security in order to enhance quality of life as people age" (WHO, 2002). The Framework presents health as a broad concept, acknowledging that health is impacted by multiple determinants, at both an individual and a societal level. These determinants are understood from a life course perspective which recognizes that individual diversity increases with age (WHO, 2002). The life course



*Figure 1: Active Ageing Framework. World Health Organization. (2002).
Active Ageing: A Policy Framework. Geneva: World Health Organization.*

perspective is also a reminder that active aging is a life-long process, with a goal to maintain quality of life with age. Using this Framework in the current study allows for the application of a “senior’s lens” to the context of a rural setting, providing greater understanding of the impact that the context has on an older adult’s ability to age well in place.

The Active Ageing Framework led to the development of *Global Age-friendly Cities (AFC): A Guide* (Figure 2; WHO, 2007). The AFC Guide presents eight domains of community life which are discussed in the context of creating an age-friendly environment, one of which is communication and information. These eight domains have become areas of focus for communities in numerous countries across the world who wish to create age-friendly environments (PHAC, 2008; WHO, 2007). Creating an age-friendly environment is not just important for older adults, but should be seen as beneficial for the community as a whole. A community built to be physically accessible for older adults will also be accessible for young children or those with physical disabilities. The WHO AFC Guide is structured as a flower to show the overlap and interaction of each component. As such, the intersection of information and communication with each aspect of an age-friendly community has been critical in this research for building an understanding of how communication and information can impact the ability of an older adult to age in place. In addition, this Guide was also used as resource material to help

explain the purpose of this research to community members and give them a greater understanding of how information and communication play a role in the development of age-friendly communities. The following sections outline relevant literature on information-seeking and access, and connect this literature back to this Framework and Guide.

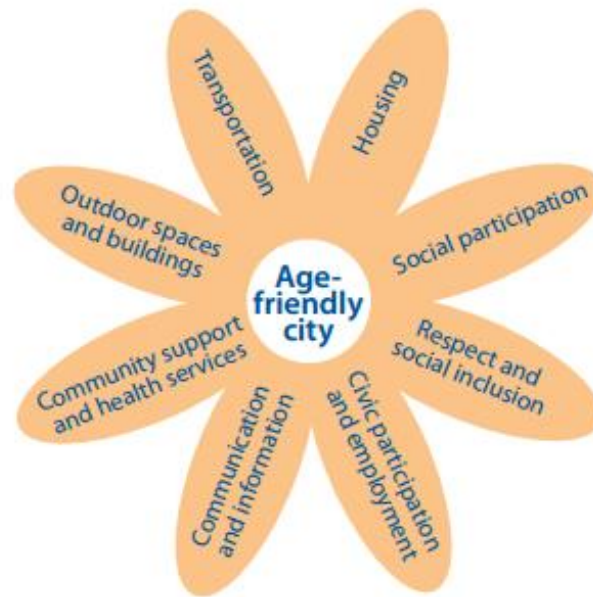


Figure 2: Age-Friendly City Guide. World Health Organization. (2007). Global age-friendly cities: A guide. Geneva: World Health Organization.

2.3 Literature Review

2.3.1 Introduction. Research consistently highlights the importance of information, particularly health information, as a resource to support quality of life, and ultimately, successful aging (Chaudhuri, Le, White, Thompson & Demir, 2013; Manafo & Wong, 2012).

Understanding information-seeking behavior is critical in creating effective health promotion strategies and methods of information dissemination. Research on information-seeking behavior is focused on understanding how individuals obtain information. Often these behaviors are influenced by the availability and accessibility of information. In the past decade, there has been a dramatic proliferation of information venues or sources: websites, email, online social media, television, radio, telephone, newspapers, magazines, pamphlets, mail, friends, family, doctors, pharmacists, nurses, to name just a few. Despite this, research suggests that many seniors are not

well informed and struggle with a lack of information (Everingham et al., 2009; Martinez-Donate et al., 2013; Newell et al., 2009; PHAC, 2006; Ryser & Halseth, 2013; WHO, 2007). Studies suggest that this is as a result of community-dwelling older adults being unable to find information, and thus they are often unaware of available supportive services (Black, Dobbs & Young, 2012; Burgess, 2010; Everingham et al., 2009). This literature review places information and communication research within the frame of “active ageing” to form a more complete understanding of how each determinant influences information seeking behaviour and information needs.

2.3.2 Behavioural and personal determinants. The WHO (2002) describes behavioural determinants as the lifestyle choices of individuals, such as choosing to be physically active, choosing to smoke, or eat healthily. Personal determinants are described as those biological, genetic and psychological factors which influence how a person ages (WHO, 2002). These determinants are important when discussing challenges encountered with biological aging which influence an individual’s ability to access information. Age related challenges include lower levels of social networking, aural and visual impairment, poor language and literacy skills, and poor manual dexterity (Everingham et al., 2009; Hislop, 2010; Wicks, 2004).

The influence of personal and behavioural determinants on information seeking are best illustrated within the context of health literacy research. Health literacy is defined as “people’s ability to find, understand, appraise and communicate information to engage with the demands of different health contexts to promote health across the life course” (Kwan, Frankish, & Rootman, 2006). From a health literacy lens, the focus is on an individual’s abilities, or their personal and behavioural determinants, as they influence an individual’s capability to find and understand information. Researchers in this area use a variety of tools to assess an individual’s understanding of health literature, then associate this with sociodemographic factors obtained by survey. Health literacy studies involving an elderly population have consistently shown that health literacy decreases with age. This age-related change is consistently associated with lack of education, low income and even rurality (Goldner, Hale, Cotton, Stern, & Drentea, 2013; Halverson et al., 2013; Harris, Wathen, & Fear, 2006; Johnston, Ammary, Epstein, Johnson & Rhee, 2006).

Having adequate health literacy, or the personal skills and ability to find and use information, supports informed decision making which is critical to maintaining independence

for older adults (Manafa & Wong, 2012). For example, in order to manage health conditions on a day-to-day basis, individuals must be able to understand and assess health information, plan and make lifestyle adjustments, and make informed decisions (Kwan et al., 2006). Patients with limited knowledge and understanding of health reduce their autonomy and independence in health-related decision making (Harris et al., 2006; Kanj & Mitic, 2009; Kwan et al., 2006; Nutbeam, 2000). Overall, health literacy research shows a relationship between age and decreased ability to find and use information. This study further explores the personal and behavioural determinants which influence older adults' ability to find information, with an expanded focus on a broader concept of health and information-seeking.

2.3.3 Social determinants. The determinants of the social environment, as described by the WHO (2002), encompasses social support and social participation. Social networks, particularly friends and family, are identified as important sources of information for older adults (Altizer et al., 2014; Ramsey & Beesley, 2006). Research has found that an influential aspect of rural communities in comparison to urban communities is greater social capital, including a sense of belonging, inclusion, trust, participation in community life and overall better health (Jeffery et al., 2013; Kanj & Mitic, 2009). However, given the diversity of rural communities, the finding that rural communities have greater social capital is not consistently reported. Others have found that rural populations are at risk for experiencing severe social isolation (Warburton, Cowan, Winterton, & Hodgkins, 2014). Older people living in rural areas were found to be at a particular risk as family and friends may live farther away and be less accessible (Warburton et al., 2014). Participating in leisure, social, or cultural activities in the community is important since these activities allow older people to continue to exercise their independence and to maintain or establish supportive and caring relationships (Altizer et al., 2014). Participation in community activities fosters social integration and is key to staying informed (WHO, 2007). Social venues and social events have also been described as essential activities since they can create opportunities to discuss health topics (Altizer et al., 2014). This likely extends to other information topics, but also pinpoints a need to ensure that information about local activities is disseminated to all older adults in the community so that they are given the opportunity to socialize and exchange information.

Expanding on the importance of social environment, studies regarding health information found that older adults in a rural setting prefer receiving information from physicians and nurses,

followed by pharmacists, then close friends and relatives, written information and media sources, then the internet (Goldner et al., 2013; Hall, Dunkelberger, & Wheat, 2005; Hall, Berndhardt, Dodd, & Vollrath, 2015). The trustworthiness, credibility and overall quality of the relationship with these sources were suggested as key factors in their selection (Harris et al., 2006; Mackert, Champlin, Holton, Munoz, & Damasio, 2014; Wathen & Harris, 2007). Research specifically exploring health information-seeking in rural communities emphasized the quality of patient-physician relationships as being crucial to whether the individual deemed the information given was valuable and trustworthy, and further whether they would actively use the information provided (Harris et al., 2006; Mackert et al., 2014; Wathen & Harris, 2007).

In addition, a study by Le and colleagues (2014), found that there was a difference in the trust of sources between the “oldest-old”, defined as aged 85 and over, and the young-middle old, aged 65 to 84. While all age groups had the greatest trust in health care providers, the oldest old were found to have lower trust in internet, radio and television (Le, Chaudhuri, White, Thompson & Demiris, 2014). Consistent with this, a study by Chaudhuri and colleagues (2013) grouped trust in information sources into two categories: living and non-living, where living sources were trusted more than non-living. In the case of printed written materials (ie, pamphlets, brochures, newspapers) the same concepts apply for trust and credibility. Whether they were recommended or published by a trusted person or organization has an impact on whether they are used (Wathen & Harris, 2007). What these results suggest, is that the social environment is a critical factor in accessing information. The experiences and relationships that older adults have with each of these information sources is important for understanding where they prefer to seek information and why.

2.3.4 Health and social services. Within the frame of “active ageing”, health and social services are responsible for promoting active aging through health promotion, disease prevention and equitable access to primary health care and long-term health care (WHO, 2002). Having direct access to health and social services impacts information provision, especially in the context of rural where information seeking and provision is influenced by what is easily accessible and locally available. As an example, in a study of lower back pain, it was found that those in rural settings rely heavily on general practitioners (GPs) to provide information, whereas those in urban centres depend on specialists (chiropractors and physiotherapists) (Briggs et al., 2012). This may lead to an important difference in health care, as GPs have less time and tend to

focus on short-term symptomatic relief, whereas specialists, like chiropractors or physiotherapists, have more time to spend providing information for long term health management (Briggs et al., 2012). This difference in care and information can lead to the potentiation of chronic conditions and poorer health of older adults in rural areas, especially compared to their urban counterparts (CIHI, 2011).

Results from a study by Everingham et al. (2009) find that community-dwelling older adults often felt that finding information about services was like navigating a maze, and the complexity of the information itself creates a convoluted and difficult process in satisfying information needs. Additional challenges are encountered when communities undergo continual structural changes in the way services and supports are organized and delivered, such as changes in hours, location, program eligibility, and referral and assessment processes (Ryser & Halseth, 2013). These changes often cause confusion amongst older adults who are attempting to access services and supports (Ryser & Halseth, 2013). Acknowledging issues surrounding lack of resources and access is important in the discussion of information sources, but also in discussing future interventions in information provision for rural communities. If a specific service is lacking in a community, then time should be spent planning additional information provision in an attempt to reduce this disparity.

2.3.5 Physical environment. The Active Ageing Framework (WHO, 2002) describes several determinants related to physical environment including rurality, transportation, service accessibility, housing, neighbourhood safety, and factors related to physical mobility. In this study, the physical environment presents a unique set of circumstances because of its rural setting. There are many definitions of rural. Census rural refers to individuals living in the countryside outside centres of 1,000 or more population. A rural and small town refers to individuals in towns or municipalities outside the commuting zone of larger urban centres (with 10,000 or more population) (Statistics Canada, 2011a). The community in this study meets both definitions and would be considered census rural and a rural small town. Rural populations face several challenges unique to their context, in comparison to their urban counterparts, including higher rates of low income, lower levels of education and higher levels of unemployment (PHAC, 2008). The physical environment of rural communities presents challenges including: low population density, more distance to travel, limited public transport and geographic isolation (Lavis & Boyko, 2010; Warburton et al., 2014). In addition, rural communities often have

reduced access and poorer quality health services (Lavis & Boyko, 2010; Warburton et al., 2014).

2.3.6 Culture and gender. Although rural communities often face similar challenges to one another, in a country as large and diverse as Canada there can be significant differences in the culture of each rural community. Culture, in the Active Ageing Framework, is defined as the traditions, religious beliefs and values which greatly influence the beliefs, behaviours and attitudes towards health and aging. In this study, culture is looked at as the underlying values and beliefs that influence personal behavior and attitudes. There is no single definition for rural culture, and as discussed, across rural Canada there are many diverse and distinct cultural groups. The rural community in this study is underpinned by an agricultural based work force and heritage. Defining characteristics may be associated with culture and gender norms, of agrarian communities (Wathen & Harris, 2007).

Gender refers to the socially prescribed roles, personality traits, attitudes, behaviours, values, relative power and influence imposed upon each sex (Johnson, Greaves, & Repta, 2009). Gender roles influence the behavioural norms applied to males and females in societies which impact their everyday actions, expectations, and experience (Johnson et al., 2009). In communities with a strong agricultural heritage women tend to be caregivers. They are responsible for the mental, emotional and physical health of their family and community (Denton, Prus, & Walters, 2004; Wathen & Harris, 2007). Women have become known as the “gatekeepers” of information in these communities, making them nodes of information in the community (Altizer et al., 2014; Goldner et al., 2013; Simmons, Wu, Yang, Bush & Crofford, 2015; Wathen & Harris, 2007). The role of women as gatekeepers may also have to do with the difference between men and women’s perceptions of health. Rural women, in agricultural communities, have been found to have a very broad and inclusive concept of health, often including aspects of child bearing, rearing, nutrition and exercise (Wathen & Harris, 2007). They are often very self-reliant when it comes to their own health and dealing with illness in themselves and others (Altizer et al., 2014; Harris et al., 2006). Rural men on the other hand tend to neglect seeking out health care professionals when ill or fail to report symptoms of illness or disease, since they may perceive symptoms as the body naturally breaking down (Altizer et al., 2014; Martinez-Donate et al., 2013). Again, these examples present ways in which rural culture

and gender have been found to have a distinct impact on the information-seeking behavior of individuals in rural communities.

2.3.7 Technology. Technology is not one of the determinants mentioned in the Active Ageing Framework, however, the topic merits consideration as technology is an important factor relevant to several of the identified determinants. With the development of technological infrastructure, service providers have begun to move towards online formats for information dissemination, which is why it has become an important topic in this study. As of 2010, 80% of Canadian households had access to the internet and about 70% of Canadians used the internet to search for health-related information (Statistics Canada, 2010). While these technologies are being touted as a practical solution to reach those living in remote and rural areas, unfortunately, they have been shown to be less relied upon and used by older adults and rural populations (Altizer et al., 2014; Goldner et al., 2013; Hall et al., 2005; Hall et al., 2015). Less use by older adults is often connected to the idea of a “digital divide” which is the gap between those who have access to information and communication technologies and those who do not (Goldner et al., 2013; Hall et al., 2015; Wathen & Harris, 2007). Although the digital divide appears to be decreasing, as there continues to be an increase in the percentage of those 65 plus who have access to these technologies, the lack of education and experience using these technologies in the older age groups continues to be a challenge (Hall et al., 2015).

For older adults, there are a few personal and behavioural determinants which present challenges in using technology including low digital literacy, cost, lack of awareness of opportunities, lack of confidence and interest in technology, difficulty finding most effective search terms, and decreasing manual dexterity (Everingham et al., 2009; Gilroy, 2005; Nguyen, Irizarry, Garrett, & Downing, 2015; Warburton et al., 2014; Wicks, 2004). In addition, there remains an overall concern of the trust and credibility of online information, as anyone can post information online regardless of its credibility (Hall et al., 2005). However, older adults who are more educated and experienced with using online information sources found technology to be empowering and useful (Simmons et al., 2015). Yet, the physical environment of being in a rural community presents challenges for older adults due to poor or no internet connectivity (Warburton et al., 2014).

Additionally, the rise in social media and social networking sites has resulted in the use of technology as an increasingly useful method of maintaining connections, especially in a rural

setting where family and friends may live a considerable distance away. Warburton and colleagues (2014) discuss internet and communication technologies as one method for increasing social inclusion for rural older adults. They discuss virtual or online communities as a way to create new opportunities for social involvement and having the potential to increase social interaction within communities. In rural areas, these technologies are thought to have the potential to alleviate some aspects of rural disadvantage, particularly social exclusion, improving access to health information and increased opportunities for social connections (Warburton et al., 2014). In this way communication technologies should be considered in connection with a variety of social support networks available within rural communities and perhaps suggest a separate distinction that needs to be made between internet based information and communication technologies. Communication technologies such as email, skype and social media have the ability to enhance social support, and can be used as a method to spread information amongst social networks, whereas internet-based information, such as service provider websites, may not be a method through which older adults get information.

2.3.8 Summary. Due to the paucity of literature specific to information seeking amongst rural older adults, this review has drawn on evidence from research on information seeking with older adults more generally, and provides background on the rural context. Table 1 draws this information and displays it within the Active Ageing Framework to demonstrate the contextual conditions of a rural setting and how this connects to information-seeking. This study builds upon the information presented in this table.

Table 1. Summary of evidence from the literature and connection to Active Ageing Framework.

Determinant from Active Ageing Framework (WHO, 2002)	Rural Influence on Information-Seeking and Access – Evidence from Literature
Social Environment	<ul style="list-style-type: none"> • Risk of social isolation in rural areas (Warburton et al., 2014), would limit information access • Potential for greater social support or social capital in rural communities (Jeffery et al., 2013; Kanj & Mitic, 2009), greater information exchange • Social venues and social events create opportunities for information exchange (Altizer et al., 2014; Ramsey & Beesley, 2006)
Physical Environment	<ul style="list-style-type: none"> • Geographic isolation in rural communities can lead to social isolation, and reduced information access (Lavis & Boyko, 2010; Warburton et al., 2014) • No or little access to public transit in rural areas (Lavis & Boyko, 2010; Warburton et al., 2014)
Behavioural and Personal Determinants	<ul style="list-style-type: none"> • Poor education can lead to decreased literacy (PHAC, 2008), which decreases information use and can lead to poor health outcomes • Personal perceptions of health can impact information-seeking (Everingham et al., 2009)
Economic Determinants	<ul style="list-style-type: none"> • Lower income has been associated with decreased health literacy (Halverson et al., 2013) • Income affects ability to afford technology (Nguyen et al., 2015)
Health and Social Services	<ul style="list-style-type: none"> • Rural communities have limited locally available services and lower access to specialists (Warburton et al., 2014; Lavis & Boyko, 2010) • Rural areas have been found to have less health promotion and prevention services (PHAC, 2008)
Culture	<ul style="list-style-type: none"> • Pioneering attitude of self-reliance (Altizer et al., 2014; Harris et al., 2006) • Cultural norm of valuing family (Wathen & Harris, 2007)
Gender	<ul style="list-style-type: none"> • Women's traditional role as family caregiver (Wathen & Harris, 2007)

Chapter 3: Research Approach

3.1 Introduction

This chapter provides the rationale for applying case study methodology by highlighting the importance of the context to the research question and the need to utilize more than one method for data collection. Following this, the appropriateness of the chosen methods of data collection will be discussed in connection with the research questions, the Age-friendly Cities (AFC) Guide and the Active Ageing Framework (WHO, 2002, 2007). The four methods of data collection will be discussed in detail, along with methods for recruitment. A short discussion of validity and reliability is followed by a brief account of challenges encountered during data collection. Lastly, a detailed description of the data analysis methods employed and their fit with case study methodology is given.

3.2 Case Study Methodology

The context of living and aging in a rural community presents many unique benefits and challenges, as discussed in the previous chapter. Briefly, these included reports of seniors with worse physical health status, less use of preventative care, more chronic illness, lower levels of education and income, decreased services, less information resources, and a richer social environment (Briggs et al., 2012; CIHI, 2011; Newell et al., 2009; PHAC, 2008). The complexity of variables presented creates opportunity for an in-depth exploration of how older adults find and access information within their real-world context. A case study by definition is “an empirical enquiry that investigates a contemporary phenomenon within its real-life context when the boundaries between phenomenon and context are not clearly evident” (Yin, 2003). Case studies require an intensive, in-depth investigation of the complexities of a “bounded system”, just one instance of a specific case, placing attention on what can be learned from the case at hand (Denscombe, 2007). This approach allows for flexibility in the methods chosen and offers opportunities for comparisons to other cases with shared characteristics, such as other rural Saskatchewan communities with limited resources, making it the ideal methodology for this study.

Yin (2003) proposes three different types of case studies: exploratory, explanatory and descriptive, defining each in the following ways. Explanatory case studies are used to explain a

presumed causal link, such as a program implementation and its outcome. An exploratory case study is used to explore situations in which the intervention or phenomenon being evaluated has no clear or single set of outcomes. A descriptive case study is used to describe a phenomenon and the real-life context in which it occurs (Yin, 2003). Alternatively, Stake (1995) also describes three types of case studies: intrinsic, instrumental and collective. Intrinsic case studies are used when the researcher has an interest in a particular case and aims to gain an understanding of it within its real-world context. Collective case studies are several cases joined to inquire into a phenomenon, population or general condition. An instrumental case study is one where a single case is used to explain deeper issues (Stake, 1995). What makes these two descriptions of case study types different is that from Yin's perspective the research question and methods used are what define the case study, while Stake defines a case study by the purpose of the research. By Yin's definition this study is a descriptive case study since the aim is to describe information-seeking experiences of older adults within the context of a rural community. Whereas, by Stake's definition it is instrumental, since the purpose of this case was to provide a more thorough understanding of the rural context to speak to deeper issues faced by rural older adults in information-seeking.

The case in this study is delimited by the population of English-speaking older adults, aged 60 and over, living within a specific rural Saskatchewan community during the period between February and May of 2016. Although there is some question of accuracy, according to the most recent statistics from 2011, the community has a total population of 176, with 80 individuals aged 60 and over (Statistics Canada, 2011b). According to population trends observed between 2001, 2006 and 2011, Statistics Canada (2011b) reports that the population of this village has been decreasing steadily. It is plausible that the population at the time of this study (February 2016) may have decreased since 2011. The village is located within a rural municipality, and is locally governed by an elected village council and administrator. Village resources are limited, but include a small grocer, post-office, library, bank, and a small bar-restaurant. The community also has recreation and public buildings which it maintains, including a curling and hockey rink, Senior Centre, Town Hall and three churches. The nearest health clinic is in another community 40 km away, and the nearest urban centre with a hospital is approximately 100km away.

The research community was chosen for several reasons. Previous research done in rural areas has often taken place in rural towns where there are often more resources than what would be found in a smaller community (Jeffery et al., 2013). The research community described above shares similar characteristics with approximately 300 other villages scattered across Saskatchewan (Statistics Canada, 2016b) who collectively represent populations that are seldom studied. Second, the researcher has personal connections in this community. These connections allowed the researcher to build rapport more easily than what would have been experienced in another community and allowed the researcher to live within the community for the duration of the study.

Personal connections in a small community also present research ethics challenges that were carefully considered throughout the study, beginning during the planning stages. Community members with close connections to the researcher were excluded from participation. Boundaries tied to a consideration of informed consent were created and adhered to, especially in relation to the collection of observation data. Essentially, it had to be clear to the participant that the researcher was engaging with them for research rather than personal purposes. If the researcher was present in a participant's home on consented "research tasks" such as interviews or filling out questionnaires, observations could then be taken. During the rapport building stages in the first few weeks the researcher attended events with individuals already known to the researcher. Following the initial period of transparent engagement in the community as a researcher, the project was formally presented to potential participants individually and privately to reduce any feelings of coercion or obligation. All participants were informed that their contributions to the project through interviews and conversations would be treated as confidential. No participant or potential participant expressed concern with contributing to the study because of the researcher's personal ties to other individuals in the community.

3.3 Data Collection Methods

Multiple methods were used to investigate the information-seeking experiences of this population. Methods included a questionnaire, in-depth interviews with stakeholders and older adults, and direct observation. Each method is described along with its connection to the research questions and purpose of this study. Prior to launching the study, ethics approval was obtained from the Behavioural Research Ethics Board of both the University of Regina and University of

Saskatchewan. Additionally, since stakeholder interviews were added during the study, ethics approval was subsequently obtained from the health region in which this rural village resides. Data collection was conducted over a period of 3 months between February and May of 2016. The first few weeks prior to data collection were spent building rapport within the community. This included living within the community and attending community events including church, “coffee row¹”, pool, cards, exercise class, and other every day activities.

3.3.1 Questionnaire. In this study, a questionnaire (Appendix A) was designed to address two of the research questions: what are the information needs of older adults, and where do they find this information? The design of the questionnaire drew on concepts from both the Active Ageing Framework and the AFC Guide (WHO, 2007). The Active Ageing Framework is comprised of determinants which impact the ability of older adults to age well. The questionnaire began with demographic questions reflecting these determinants: gender, age, education, marital status, and economic status. The AFC Guide, on the other hand, presents eight different domains, which were used to build questions on different types of information that older adults may need (i.e. transportation, health services, etc.). Creating the questionnaire thus allows for the analysis of the association between the determinants, as proposed by the Active Ageing Framework, and the information domains presented in the AFC Guide and information needs and seeking habits. Furthermore, the questionnaire allowed for more community members to be included in the study, creating a sense of inclusiveness. Given that this was research based in a very small, tight knit community, it was important to remain aware that individuals may easily feel left out if not included. This had the potential to create tension amongst community members and the researcher. Additionally, the questionnaire provides a good comparison to data from interviews and observations, and could reach everyone in the community. Therefore, the aim was to distribute the questionnaire to all community members aged 60 and over.

Recruitment for the questionnaire coincided with recruitment for in-depth interviews. Initially, study posters and flyers were distributed around the village; at the Senior Centre, post office, grocery store, library, and bulletin boards. This distribution strategy enabled the researcher to speak about the research during the rapport building stage and increase the level of

¹ “Coffee row” is a regional term used for the regular informal social gathering of community members.

interest amongst potential participants. Following this rapport building stage, the researcher brought the questionnaires to community events to distribute them to older adults so they could complete them at their leisure. Most participants, however, simply completed them on the spot, which enabled the researcher to clarify any questions that participants may have had. It also allowed the researcher to observe how older adults understood the concept of ‘information’ as they went through the questionnaire. Many openly discussed the questionnaire as they went through the close-ended questions. The questionnaire was also useful as a segue to finding participants who were interested in participating in the in-depth interviews. Additionally, the researcher made a concerted effort to ensure that a questionnaire was distributed to all of those over the age of 60. In doing so the researcher went through the phone book and a map of the village with several participants to identify individuals over the age of 60. The researcher then dropped off questionnaires to individual houses if they had not yet had a chance to fill one out. By using this method, the researcher could identify that there were 46 individuals living in the village over the age of 60. In all the cases where the researcher dropped the questionnaire off in-person, the potential participants were more than happy to fill the questionnaire out at that time.

The questionnaire took under 20 minutes to complete and was close-ended with a multiple choice answer format. One final open-ended question invited comments. Questionnaires were given to all individuals aged 60 and over who lived within the community, and who could communicate in English. The researcher offered to read aloud questions and otherwise assist participants in completing the questionnaire. Several older adults requested researcher support in completing the questionnaire, including some who had health issues, poor eyesight, and some who simply needed assistance. Eighty-seven percent (N = 40) of those who were identified to the researcher as being aged 60 and over completed the questionnaire. The questionnaire was considered a convenient, less onerous and time consuming method of data collection, making it a less intimidating option for older adults who wished to participate in the study but did not wish to commit to an interview.

3.3.2 Interview with older adults from the community. In a case study, one of the most important sources of information is the interview (Yin, 2003). Interviews offer richer material than questionnaire data by allowing participants to construct their own reality and think on the subject more deeply, rather than being confined to a single answer provided by the researcher (Yin, 2003). This study used interviews to gain insight into what influences the selection of the

source of information, barriers and enhancers to accessing information, how information is found and what the information needs are. Participant interviews provided evidence for all of the proposed research questions. In this study, the interviews were semi-structured and appear more as guided conversations (Appendix B). The interview guide included a focus on participants' perceptions of living and finding information within their rural community, how they went about finding different types of information, and on barriers or facilitators that they may encounter during information-seeking.

As discussed, several interview participants were recruited during the distribution of the questionnaire. Additionally, during the rapport building stages the researcher was often given a chance to discuss the study, and this enabled the researcher to identify potential participants. Contact information was collected from those who expressed interest in the research. Once participants were recruited for the interview portion, they received a study information package and consent form. The researcher then set up a one-on-one meeting, where participants were given a chance to ask questions and review the consent form. After a few participants were involved in the study, snowball sampling took place. The interview took 40 to 90 minutes to complete. Participants were eligible for the interview if they were over the age of 60, could communicate in English, resided within the community, and were able to provide informed consent. Fourteen older adults expressed interest in participating in the interview portion of this study, and all were included. Participants ranged in age from 66 to 86, and there were 10 women and 4 men. Interviews were digitally recorded, and verbatim transcription was completed by the researcher.

3.3.3 Interviews with stakeholders. Stakeholder interviews were added to this study following interviews with the community's older adults. During the interviews with older adults, several individuals were identified as being responsible for providing information to them. These individuals included: home care nurses, home care manager, local village council, and the rural municipality council. These individuals could therefore be considered information providers or stakeholders in this community. Adding these interviews allowed a more in depth understanding of the context, the existing information environment, and the barriers and enhancers to accessing information in this rural community. Stakeholders who were approached and interviewed included representatives from municipal and local governance, and health care professionals from the health region in which this community resides, for a total of 7 stakeholder interview

participants. The same style of interview was conducted with stakeholders, as was done with older adult participants. The interview guide included a general discussion question on the occupational roles of the stakeholder, specifically those related to older adults and information provision, as well as a discussion of their perception and experiences of disseminating information to older adults (Appendix C). Five interviews were digitally recorded, and verbatim transcription was completed by the researcher. Two interviews were conducted via phone and written notes were taken by the researcher.

3.3.4 Direct observation. During the 6-week study period, the researcher lived within the village, and spent time taking direct observations. The researcher had the opportunity to observe participants while collecting other data, such as conducting interviews and questionnaires with participants. Data collected at these time points included observations of print information materials visible in participant's homes, presence or absence of computers, television or radio, and any other observations of daily activities of living which involved information seeking or needs. These observations were written during interviews or while filling out the questionnaire. Observations were also taken while attending community events, "coffee row", church and other activities. At group events the researcher could observe how information was communicated amongst individuals. Observations of social events were written immediately after the researcher left the event.

The researcher was also able to observe where posters, fact-sheets and other print materials were distributed around the village, and noted instances where these same print materials were found in participants' homes or discussed at social events. Such observational data is useful for providing additional insight on how information was distributed and communicated around village, and created further contextual evidence. In addition to observing aspects of the information environment within the community, the researcher reviewed information materials available online or in print for each of the stakeholders. This direct observation provides additional data, but also adds a new dimension to understanding how and what information is disseminated throughout the community (Yin, 2003).

Table 2. Summary of case study data collection methods.

Research Question	Data Source
What are the information needs of older adults in rural Saskatchewan?	<ul style="list-style-type: none"> • Questionnaire data • Interview with older adults • Interview with stakeholders
How do rural older adults find information and what influences their selection of the source of information?	<ul style="list-style-type: none"> • Questionnaire data • Interview with older adults • Interview with stakeholders • Direct observation
What are barriers and enhancers to accessing information in a rural setting for older adults?	<ul style="list-style-type: none"> • Interview with older adults • Interview with stakeholders • Direct observation

3.3.5 Addressing validity and reliability. Case study researchers use diverse terms for validity and reliability, as their data often draws from both qualitative and quantitative methods. For the sake of clarity and consistency, this study will use the terms and concepts as defined by Yin (2003), but also include the analogous qualitative terms. Yin (2003) defines construct validity as identifying appropriate measures for the concepts under investigation. The analogous term in qualitative studies is confirmability, which assesses whether the conclusions drawn from the data are logical and unprejudiced (Riege, 2003). Research strategies employed in this study to improve construct validity and confirmability include the use of multiple sources of evidence and establishing a chain of evidence through use of recorded interviews, verbatim transcripts, and observational notes. External validity refers to the establishment of domains to which a study's findings can be generalised (Yin, 2003). The parallel term to external validity used in qualitative research is transferability (Riege, 2003). Since this is a single-case study, external validity and transferability are addressed through connecting and comparing evidence from this study to current literature. Internal validity, that is the establishment of causal relationships, is not applicable in descriptive case studies (Yin, 2003). Reliability is the demonstrated operations of a study, such that the data collection procedures could be repeated with the same results (Reige, 2003; Yin, 2003). Yin describes the difficulty of using this overtly quantitative term, especially in case study research, where the context is defined by its complexity of uncontrollable variables, and so further extends this definition to include the term "dependability", which is also the analogous qualitative term. Dependability concerns the stability and consistency of the process of inquiry. Techniques for ensuring dependability

included the use of recording devices, peer review, use of interview guides and an audit trail, or the comprehensive documentation of the research process and lines of inquiry.

3.3.6 Challenges encountered in data collection. Over the course of this study, the researcher found that the topic of information was not easy to discuss with the older adult study population. The original study proposal had included asking participants to keep a journal where they would capture every-day information seeking. Despite numerous explanations and discussions, the idea of journaling was met with confusion and resistance by participants. Two participants did say they would try, but returned the journals empty with comments of having nothing to write about. This may have happened for a few reasons including journaling being too time consuming or onerous of a task, or the task was not well-explained by the researcher. However, the researcher observed that this is more likely a result of how the term or idea of *information* is perceived by older adults in this community, where every day information-seeking behaviours are a norm and so are not visible to them. For older adults, socializing with friends and family over coffee is how most information is gained. Reading the newspaper, watching television and listening to the radio are treated as hobbies or part of the everyday routine. Information may not be actively or explicitly sought from these sources and therefore passively absorbed if something of relevance to the observer is found. The challenge here is that these everyday routines and social interactions are not perceived as information-seeking activities. As a result, participants felt that they had nothing interesting to write or talk about in the journals.

Without the journals, the interviews became a key tool for eliciting in-depth discussion of information-seeking behaviors. However, the same issue was encountered regarding the perception of information. Directly asking older adults: “what type of information do you need or think you’ll need in the future?” elicited confusion and non-response. Thus, a less direct approach was taken in participant interviews to get at the root topic of information. Instead of asking about information, the researcher asked, “what do you think you need (or will need in the future) to remain in your home or community?” This allowed the researcher to follow up with questions on how they would go about obtaining the resources or services they needed. These results combined with stakeholder interviews and direct observation, paints a rich picture of the rural context.

The questionnaire was also met with similar challenges. The questions, although seemingly straightforward, were not easily answered by some participants. A considerable

amount of discussion and explanation by the researcher was needed to guide participants through the questions. Participants had some difficulty understanding why the questions were applicable, especially if they felt that they did not feel the need to seek the information asked about in the question. However, what the questionnaire did introduce was a useful contrast between the “use” of an information source, and obtaining information. Although one may listen to the radio or watch T.V. daily, thus “using” the source of information regularly, active information uptake cannot be assumed. This interpretation is drawn from contradictory responses to similar questions in the questionnaire and interviews. These contradictions and a more in-depth description of these issues follow in subsequent chapters.

3.4 Data Analysis

3.4.1 Quantitative analysis. Questionnaire data was coded, entered into SPSS version 21 (IBM Corp, 2012), descriptive analysis was generated and data was checked for errors. To investigate the relationship between the demographic variables and information-seeking questions, cross tabulation and Chi square were initially performed using all variables. The association between each of age, gender, marital status, education, and economic status and (1) preferred source of information for each type of information and (2) amount source was used. After finding very few statistically significant results, it was noted that the number of sources chosen by individuals varied significantly, a finding echoed in the literature (Chaudhuri et al., 2013). Therefore, a t-test was used to check for significance amongst the demographic variables and the number of sources sought for each information topic.

3.4.2 Qualitative analysis. A common method for qualitative analysis in case studies follows four stages as described by Morse (1994): comprehending, synthesising, theorising and recontextualising. Morse (1994) describes the first stage of comprehending as “learning everything about a setting or the experiences of participants” (p. 27). Thus, this first stage begins during data collection, whereby the researcher aims to collect sufficient data to be able to provide a coherent and rich description of the case. As an example, in this study, additional data was sought through stakeholder interviews to create a more comprehensive picture of the rural context. Once sufficient data has been collected, analysis through initial ‘broad coding’ or applying ‘descriptive codes’ launches the comprehension stage (Houghton, Murphy, Shaw & Casey, 2015; Miles & Huberman, 1994). Broad or descriptive codes focus on identifying and

labelling what is in the data. The researcher used Atlas.ti 7.5.10 (2017) and deductively applied a pre-established 'start list' of open codes, based on the research questions (Table 3). Using pre-established codes is recommended by Stake (1995), and Braun and Clark (2006), as it focuses analysis on the primary aim of the research. Therefore, the start list of codes included a focus toward information needs and sources of information (Table 3). Both interview data and direct observation data were first coded using this initial list of open codes. Since observation data was captured in hand written notes, they were analyzed by hand rather than in Atlas.ti. After this was complete, the researcher re-read the data several times to inductively identify any new codes outside of the initial list, and any statements that may have been missed in the initial read through. New codes related to the rural setting, and the determinants from the Active Ageing Framework.

The initial comprehending stage, through the steps of broad coding both deductively and inductively led to the data being arranged into general domains. These individual domains are then assessed further inductively (Houghton et al., 2015). This is where the second stage of synthesizing begins. Synthesizing is "the merging of several stories, experiences, or cases to describe a typical, composite pattern of behaviour or response" (Morse, 1994, p. 30). This involves organizing the broad coded data or domains, through 'pattern coding', which involves interpreting, interconnecting and conceptualizing the data. Using the codes developed in stage one, the researcher reanalyzed statements or excerpts within each domain to identify conceptual or explanatory codes, which would identify patterns or explanations (Houghton et al., 2015; Miles and Huberman, 1994). Memos were also created during this process to summarize key ideas and concepts that arose through this process of coding. The result was explanatory codes and memos which aimed to reflect the perceptions and actions of participants. For example, within the broad code of 'family', several barriers and enhancers were identified as impacting the use of this source of information, creating pattern codes such as 'feeling like a burden' or 'role of caregiver'. This stage of synthesizing lends itself to providing answers to the other two research questions: What are barriers and enhancers to accessing information in a rural setting for older adults and what influences the selection of the source of information for older adults in rural Saskatchewan?

The third stage of theorising is "the process of constructing alternative explanations and of holding these against the data until a best fit that explains the data most simply is obtained"

(Morse, 1994, p. 33). The aim during this stage was to create a comprehensive picture of the perceptions of participants, both stakeholders and older adults, and of the observational data. In this case study, the theorising stage also involved incorporating the findings from the questionnaire data to form a cohesive story. The questionnaire, by design, is limited in its understanding since it does not capture the context in which it lies. Therefore, it was necessary to embed this data within the context described in the qualitative pieces of this research. What this meant was building a comprehensible account of the data, through identifying both consistent and contradictory concepts across the data (Houghton et al., 2015). Key themes were identified across all pieces of data, then comparisons were made between the data from each source, together this formed an integrated understanding of information seeking and access in rural Saskatchewan. For example, (1) the questionnaire data reveals that radio is a frequently used source of information, (2) observations revealed that the radio was consistently 'on' in many households, and (3) interview data suggests that the radio is not a common place to access information. So, while two pieces of data suggest that radio is a key source of information, the third suggests that it is not. From here, hypotheses were developed to explain both consistencies and inconsistencies in the data. As will be seen in the following chapter, this stage of theorising was instrumental in providing a description of the context and revealing deeper existing issues. The final stage of recontextualising involves the development of recommendations or hypotheses, and comparison to previous research (Houghton et al., 2015; Morse, 1994), which is in the last chapter of the thesis.

Table 3. Summary of qualitative analysis techniques (Houghton et al., 2015)

Stage of Analysis	Method	Data Source	Example of Codes
1. Comprehending	<ul style="list-style-type: none"> Broad coding 	<ul style="list-style-type: none"> Interview with older adults Interview with stakeholders Direct observation 	Types of information: transportation, health service, financial Source of information: family, friends, internet, doctor, nurse
2. Synthesizing	<ul style="list-style-type: none"> Pattern coding Memoing 	Excerpts from: <ul style="list-style-type: none"> Interview with older adults Interview with stakeholders Direct observation 	‘Feeling like a burden’, ‘role of caregiver’, ‘dependence’, ‘independence and self-sufficiency’, ‘trustworthiness’, ‘importance of socializing’, ‘personal experience and knowledge’, ‘fact checking’
3. Theorizing	<ul style="list-style-type: none"> Distilling and ordering data: codes, memos, and statistics 	<ul style="list-style-type: none"> Questionnaire results Memos and pattern codes from: <ul style="list-style-type: none"> Interview with older adults Interview with stakeholders Direct observation 	
4. Recontextualizing	<ul style="list-style-type: none"> Developing propositions 	<ul style="list-style-type: none"> Data from this study Evidence from the literature 	

Chapter 4: Results

4.1 Introduction

This chapter presents a description of the findings. First, a contextual description of this rural community is presented along with how rurality impacts the determinants from the Active Ageing Framework (WHO, 2007). These determinants will then be used to describe the barriers and enhancers to accessing information in a rural setting. Second, a description of the sources of information used by older adults, as well as an exploration on how older adults find information and what influences the selection of a source will be discussed. The final section explores the information needs of older adults in this community, and connects these needs back to the rural context.

4.2 The Rural Context and Information Seeking

4.2.1 Social environment. The functioning of this rural community, as stated by interviewees, is dependent upon the support of community members. As such, this village finds itself in a position where, unless initiative is taken by community members, the community stagnates.

I find that in the rural areas, if there's not initiative to get any kind of programs started or whatever, nothing happens. You're left in the dark, like you know, and it's kind of sad, because I think if you went to [the city], sure, and I don't want to go to the city, but if you went to [the city] there's a lot of activities or things you can do, but I can't see why the rural areas cannot support any of this.

This contrasts with an urban environment where there are more businesses, government or non-profit organizations to provide local programming. In this rural community, however, there is also an onus placed on community members to support local initiatives, whether that be through volunteering, attending events or making nominal contributions. The expectation is that everyone should be involved to ensure success. There is a strong sense of duty and pride in this community towards ensuring that the village survives through keeping local facilities open and continuing to run programs.

I think our community is pretty fortunate now, and maybe always have been, the young people, as they get to bear the responsibilities, they're doing it. They're looking after our public buildings very well here. And keep that up you know, throughout our world. There's no reason why it can't last for a long time.

In the past, with government financial cutbacks and the slow migration of the population to urban centres, rural communities like this one have been hit hard with the closing of local hospitals and schools. Even today many older adults in this community reminisce about how different their village would look if not for the loss of their school, and therefore the slow loss of its younger population, followed by the deterioration of other services and industries. As such, it is considered of utmost importance in this community to maintain what facilities they do have and ensure that those who are still living there want to stay. What this creates is strong cohesion where the older adults in particular play an integral role in the functioning and maintenance of their community. This also leads to increased opportunities for older adults to participate in a variety of activities within the community.

And too I think that the people that live, not only the senior people too, we should support our own facilities in town. Because if we don't support them, and these facilities close up, that we've had it.

Part of this community cohesion is a strong volunteer and informal caregiver force. As an example, there were a few individuals within the community who stated that they were "socially isolated" or "not-involved socially", however, observations revealed that they still had many friends, family and neighbours looking out for them. Observation notes describe one researcher visit where an individual who self-identified as socially isolated, had several calls from family and friends asking whether they could drop off food and whether a ride was needed to an appointment. In many cases, neighbours are readily available to take care of necessary yard tasks, and even home maintenance should the need arise. For those older adults confined to their homes, informal services arose in the community to compensate for non-existent services, such as delivery of groceries and transportation. Of course, this is not to disregard the feelings of loneliness felt by these older adults, but to suggest that those in rural areas may be at an advantage due to the support of those in the community.

And for groceries it's the same thing, [the store manager] will deliver my groceries if he has to, and there's always somebody, like they're always phoning, so away I go with them for my groceries and my water too. So far... Salt for the softener, well he'll deliver that, and well water, [my neighbour], he'll get my water, puts it on the cooler for me, so I'm O.K.

This connection to community plays a role in building strong community cohesion which results in a rich environment for information flow. Individuals who are connected and remain in touch with one another can pass information through informal means of social interaction.

4.2.2 Health and social services. Limited locally available services negatively impact the availability of information and require older adults in this community to take a more active approach to information seeking.

Well it's not as available as it is in the city, like lots of stuff just isn't there. And ah... but, I guess I would just go to the phone book and start digging or ask questions, talk to people.

Not having services located within the community means having to look farther abroad to acquire the services needed. Besides challenges in transportation to directly access services, older adult interviewees also identified two challenges in accessing information; the first is not knowing where to look for information, and the second is not knowing what questions to ask to acquire the assistance needed.

The challenge of identifying who to ask is the result of uncertainty regarding whose jurisdiction it is to provide specific information and services. When interview participants were asked who they thought was responsible for providing specific services and information, the answers received were variable and uncertain. This confusion and uncertainty felt by the community's older adults speaks directly to the difficulty of obtaining clear information. In the case of finding information on funding for community programs, older adults thought responsibility would fall to the village administration and the rural municipality, yet the stakeholders from these positions claimed to have very little to do with funding programs for seniors.

I still think that our, the source we should be able to go to and get the information we want is our RM office.

Even still, others felt that since funding likely came from the Government of Saskatchewan that it was the government's responsibility to ensure that this information was appropriately disseminated. As can be seen, these contradictions present misconceptions of who does what, and what services are truly available to community-dwelling seniors.

The issue of convoluted system structures, as identified by participants, was largely the reason for adding stakeholder interviews into this study, in an attempt to increase the understanding of who is responsible for what, and what services are actually available.

It's not working out you know, the way... what you had in health care a few years ago was great. I don't find that anymore, because you have to go through so many stages... Like you know and navigating the system.

The researcher experienced the difficulty of obtaining clear information first-hand. Information about services found online and heard from participants was contradictory to what was heard from service providers. The issue encountered by the researcher was that while services are said to be available on paper, they are not always available to all rural communities or individuals. Service availability is susceptible to funding, volunteer or worker availability, and infrastructure. This grey area of what can truly be provided to communities presents a serious challenge in navigating the system, and makes it difficult to obtain the necessary resources and services. So while the researcher found that the issue in some cases could be attributed to a lack of awareness, more often the true challenge was that a service simply *did not exist*. One good example was given by a health care provider:

I think with home care, it's difficult to [disseminate information] because it is so personalized, yeah we have all these services to offer, but that doesn't necessarily mean that you are going to receive all those services, it is dependent on your condition or your disability at that time. And where you live. Like meals on wheels can only be offered in towns that have a facility that will deliver those meals. There is definitely a bit more challenges, because they are rural.

The difficulty is that older adults in this community are under the impression that when the time comes and they require assistance, that they will be able to get it, but this may not always be the case and they may have to face a tough reality when the time comes.

You know otherwise, heck, it's the home care, the nurses are so good, and with the house work and maintenance, I think there's home care for that also.

Compounding issues of lack of information and services is the constant changing of services. Several older adults described how changes in the structure of health care have caused great difficulty when it comes to navigating the system. Services that once existed no longer exist or have changed how they function. Even something as simple as changing of hours or reorganization of where services are offered from can cause confusion. It should be noted that

although these issues are discussed in the context of health care, they are not confined to health care. Any changes in service provision can cause confusion.

OK, the home care you'd have to go through your health district, you know and each, how would I say it? ... Each area of the district, of the health district has a home care coordinator. It's situated, the office is out of [an urban community approximately 100km away], so a lot of times... I don't know how to explain this, but like your, if you need social assistance or whatever, let's say, that's one example. If you need social assistance you can try to go to your doctor, or even the home care coordinator, but then you're shifted to [another place] right away. So that seems to be the central part.

These challenges are exacerbated by ambiguity among resource providers about who should be providing services to these communities. The health region for its part, and thanks to the vital role of home care managers, nurses and continuing care aides, provide what they can, where they can, based on needs assessments. In cases where they can't provide assistance, they do their utmost to direct older adults to someone who can.

It's all about need. It's not like you can pick up the phone and say I need someone to clean my house and cook my meals because I don't feel like cooking or cleaning any more, no that's not the way it works. You have to have the need. So you have to look at the private sector for those supports... And we don't just slough people off, we help them find other resources, help link them with things that would more pertain to them, instead of just sloughing them off and letting them find out themselves, we do help provide that information.

At the same time, older adults require resources far beyond immediate health needs and within this community there is a complete lack of services for community dwelling older adults, unless they reach a point where they need to access the health care system. Further, interviews with individuals from the local and municipal government revealed an absence of resources and supports specific to older adults. In this community, older adults face many issues due to a lack of resources. An assessment of services in the village found an absence of house cleaning services, no Meals on Wheels, and only a bar to eat at in town, no local assisted living, inadequate and out-dated low-income seniors housing, no transportation options, and no local health clinic.

This is not the fault of either municipal or local governance, but rather the result of a lack of prioritization by the Saskatchewan provincial government. An online assessment of provincial programs found no designated resources for seniors and no province-wide strategy for seniors, they have left seniors by the way-side and have virtually put the entire weight of an expanding

population on an already over-taxed health care system. Saskatchewan remains the *only* province lacking a government provincial action plan to provide for its aging generation of baby boomers. However, Saskatchewan does have the *Saskatchewan Age-friendly Initiative* which is made up of non-governmental organizations. They state in their online information materials that both the health regions and the rural municipalities are involved in carrying out the program. Yet, when asked about the age-friendly initiative, all of the stakeholders interviewed stated they knew nothing about age-friendly initiatives or any programs directed towards seniors. This reveals a disconnect amongst service providers which needs to be remedied to successfully disseminate information and develop age-friendly communities.

4.2.3 Physical environment. While only approximately 100km from the nearest urban centre, the research community can be considered geographically isolated, especially when mobility is restricted during the winter months. Absence of public transportation and limited services within the community present a considerable challenge for those who can no longer drive their own vehicles. Regarding information, lack of transportation presents challenges in accessing face-to-face information sources. These challenges will be further discussed in subsequent sections.

I think something that is making life more difficult for seniors is the fact that they're centralizing everything in large areas. And um, so, you have to go a distance to find what you want.

4.2.4 Behavioural and personal determinants. The researcher observed that many older adults in this community experienced challenges associated with aging, including loss of eye sight, aural impairment, and poor manual dexterity. Loss of eye sight was mentioned as being particularly problematic in finding information, especially regarding print materials, and often resulted in individuals depending on friends and family to assist them: "Well I'm nearly blind so I depend on the coffee people to tell me about things". Aural impairments were observed as being a barrier to information passed along via phone. The researcher occasionally had difficulty passing along information to participants over the phone, and it often resulted in the researcher needing to contact the participant in-person to pass along information. In addition, a few questionnaire participants noted that aural impairments made it next to impossible to contact service providers via phone, and even made in-person conversations difficult.

Literacy was not formally assessed in this study. However, there were numerous participants who requested their questionnaire to be read to them. The researcher did not ask what their reason was for the questionnaire needing to be given verbally. While visual impairments and manual dexterity are likely explanations, there may have also been some challenges with literacy. Outside of this, technological literacy was observed to be a major deterrent to accessing information online. The researcher was often asked for assistance in using technology. One interview participant stated that her technological illiteracy was the reason for not using computers to find information: “we don’t even have a computer, we are completely illiterate when it comes to computers”.

4.2.5 Gender and culture. Although there is a need for more information availability in their own community, community members have resigned themselves to the idea that it just cannot be provided in their small village. Over the years this has made them independent and determined to strive for self-sufficiency. This attitude of self-reliance is also likely a result of the cultural norms present in this community. Most older adults in this community are from agricultural, farming backgrounds with norms of independence, hard work and perseverance.

Yeah like I don’t know in a small community like this we’re so much on our own, and I mean we’ve learned to do things on our own, to dig for these things, and ask questions.

Independence is a significant trait of older adults in this rural community. Sometimes this creates an unwillingness to accept help, but can also be conducive in maintenance of good health and well-being. Part of creating a community where older adults can stay as they age, is enabling them to remain independent, as losing independence with age is disheartening for many older adults. In terms of information, this research found that the need to remain independent can result in two paths. The first is that independence may result in avoidance, and therefore older adults may ignore the issue and decline to seek information or be reluctant to listen to advice.

It was the doctor, he mentioned home care, and so... I felt so guilty, I says “why am I getting home care” I said, “I can do these things on my own”, but that was their job.

The second may result in older adults seeking information about options that would enable them to remain independent, such as seeking someone to assist with difficult house-cleaning, therefore enabling the individual to remain in their own home.

Additionally, the agricultural heritage of this community places women within the role of caregiver. This was especially observed during social events where women were found to discuss health and social matters, compared with men who discussed work or agriculture-related topics. However, outside of the public eye, and in interviews with men in this community, they did take on a caregiver role if their spouse was ill. These men who had taken on a care-giver role were just as likely as the women to have information on available health and social services.

Table 4 summarizes the Active Ageing determinants as connected to this study. The research community has a considerable informal social support system for older adults, as well as significant community cohesion, creating a strong social environment. The physical environment of this rural community, on the other hand, is defined by geographic isolation which reduces access to health and social support services and therefore limits information availability. Gender and culture in this rural context include norms of family caregiving and an attitude of independence. Although economic determinants were assessed within the questionnaire, only 2 of the 40 participants who completed the questionnaire claimed to “not have enough income for the little extras”, so although it may impact information seeking, there was not enough evidence collected in this case study to sufficiently assess the impact of economic determinants.

Table 4. Summary of contextual determinants present in this rural community.

Determinant from Active Ageing Framework	Results from Case
Social Environment	<ul style="list-style-type: none"> • Strong social support networks • Community cohesion • Preferred word-of-mouth for accessing information • Opportunity to participate in community groups and events • Some expressed loneliness
Physical Environment	<ul style="list-style-type: none"> • Geographic isolation (approx. 100km from nearest urban centre, 40 km from neighbouring town) • Lack of public transportation • Mobility extremely difficult in winter months
Health and Social Services	<ul style="list-style-type: none"> • No support services located within the community • Nearest support services located 40 km away in nearest town • Home care nurses do visit community by Doctors request • Older adults lack sufficient knowledge on what services are available; poor dissemination of service information by service providers • No prioritization of seniors within the government
Behavioural and Personal Determinants	<ul style="list-style-type: none"> • Aural and visual impairments decreased individuals' abilities to find information
Gender and Culture	<ul style="list-style-type: none"> • Women typically hold the role of caregiver • Role of caregiver related to traditional norms within this community • This is a pioneering, agriculturally based community • Independence

4.3 Source of Information

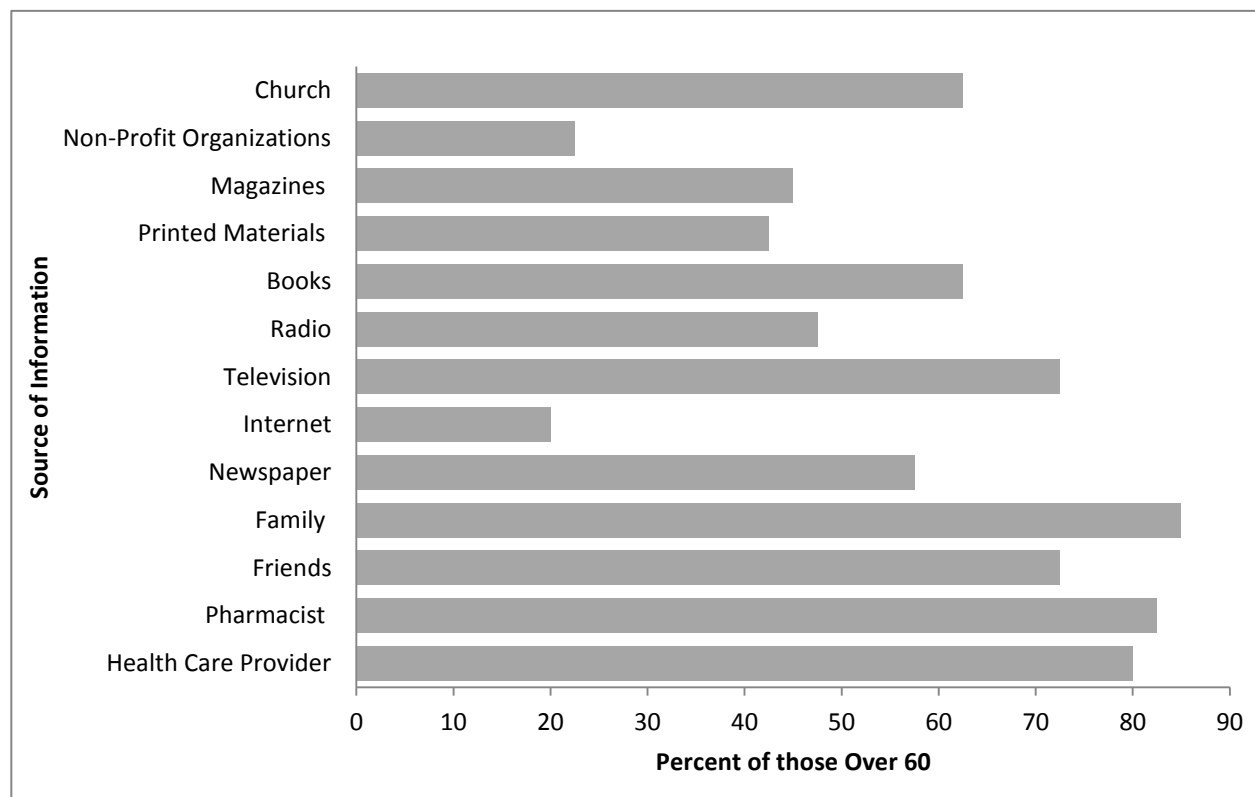
A source of information was described to participants as any person, place or thing that they would go to, to find out more about a specific type of information. Several different types of information were discussed in this study, and in the questionnaire each type of information was given a list of examples to aide clarity for participants. Types of information included: (1) *Housing information* included information on renting, moving, retirement living, for example; (2) *Social events* included examples of community events, gatherings, and recreation; (3) *Personal care services* included the example of home care or nursing care; (4) *Home maintenance services* included house cleaning and lawn care; (5) *Transportation* information included examples of the bus, personal driver or taxi; (6) *Health service* information included clinic hours and nurse availability; (7) *Financial* information examples included pension plan, savings or welfare. Since the questionnaire was completed first by all those older adults who participated in the in-depth interviews, it is a possibility that these examples of types of information and sources may have carried over to the in-depth interviews. The sample description for those participants who completed the questionnaire is found in Table 5.

Table 5. Questionnaire Sample Description

	N	(%)
Total Sample Size	40	
Gender		
Male	15	(37.5)
Female	25	(62.5)
Age		
60-69	10	(25.0)
70-74	7	(17.5)
75-79	12	(30.0)
80-84	5	(12.5)
85 and Over	6	(15.0)
Education		
Less than high school	15	(37.5)
High school	15	(37.5)
More than high school	10	(25.0)
Marital Status		
Single	5	(12.5)
Married	18	(45.0)
Widowed	17	(42.5)

4.3.1 Family. Eighty-five percent of older adults who completed the questionnaire identified family as a source they sometimes or frequently went to for information (*Figure 3*), making family the most frequently used source of information. Family was identified as the primary source of information for the topics of housing (27.5%), home maintenance (37.5%), transportation (42.5%), and financial information (17.5%). This is consistent with the interview data. Interview participants recognized the importance and value of having relatives live close to them, and often rely directly on them for support in a wide range of activities, including transportation, yard and home maintenance, and importantly here, aide in finding information.

Figure 3. Sources of information frequently used by older adults.



As described previously, this community has a large informal caregiving force, and for those with family nearby, it was an expectation that family would be available to fill this role, providing support and guidance.

Well I would expect, probably our family. Would be. You know if we got to the point where we were obviously failing and needing help, I would expect it would be the family that would see that, or it would be the family we would go too.

In filling the role as caregiver, participants expected that family members would be the ones finding, or at minimum, assisting with finding information on available resources and planning for the future. Even for those without family in close proximity, they were still relied upon, with communication maintained through phone, skype or email.

You know I think about it, it's not cause I'm being naïve, cause I know that as the years go by, it'll be I have to, I have to kind of make a, you know, be aware of what might happen, and what have [you], and then it's too kind of, OK where do I go? Who do I find? What do I do? And stuff like that... And if, if my daughter, well she's far away, but she, she can help me with that too.

The expectation of having family fill the role of caregiver was not only held by the older adults, but local health region stakeholders also described the importance of family, especially in the absence of other supports. These health care providers described being frequently contacted by families looking for information on behalf of an elderly relative. They also discussed how information was passed amongst family and friends through word-of-mouth, especially after individuals have experience with the system. In fact, one health care provider stated that they *relied* upon family to make sure information reached their older family members

And we definitely rely a lot on families passing along information, if they've had good experiences with home care they pass that along to other friends and family members... there are a lot of referrals for that.

Evidence of this method of dissemination was common within the community. Several women, and a few men, described their own role as caregivers within their family. These were also the individuals who were informed on health services and available supports. The experience of providing care to family members also increases their knowledge of resources available, so that by the time the caregivers require similar resources, they may rely on personal experience and knowledge to navigate the system. As discussed previously, however, having prior knowledge of services may present challenges in navigating the system due to services changes.

No, I guess we knew about it because our daughter [had health issues]. And she's had access to all kinds of, you know, equipment. And ah, so we knew about these.

While on the one hand participants express the belief that family will step up in a time of need, they also express fear of being a burden or nuisance to loved ones. Several older adults described their families as being “too busy” and therefore often hesitated, or refrained completely, from asking their relatives for aide: “Like why ask the kids, they're busy”. This is a

good example of the desire to remain independent with age, and as discussed, avoid or refrain from asking for help for as long as possible.

4.3.2 Friends. Friends were identified as information sources that were sometimes or frequently sought out by 73% of older adults who completed the questionnaire (Figure 3). Consistent with interview data, friends were identified as a primary source of information for the topics of social events (60%), home maintenance (35%), and transportation (37.5%). Interviews revealed that friends were often relied upon, sometimes more so than family, for assistance in transportation, everyday living tasks, and information seeking. Although friends may sometimes fill the role as caregiver, there was more of an emphasis on having strong friendships to improve social well-being, especially when it comes to healthy aging and remaining happy in one's community.

Well I suppose in the everyday living, when you're meeting people, and care and talk to them, that's part of, of wellbeing. And caring. Yeah. Just that you get to know other people by caring.

As discussed within the context of community cohesion, strong relationships allow for a rich environment of information exchange. Friends can be the start of an initial information search, whereby they assist in locating an initial piece of information or connecting each other to additional information sources which may be followed up on. They are also considered to be a trusted secondary source to verify the information received from other venues, as was the case with family.

Well [my friend] lives in Regina and she was working in some of these group homes or whatever they were called, and she gave me some information... and I don't know how it came up, I just think we got talking over coffee one time, and she says well I can get you some information, and so she gave me a couple phone numbers.

Friends were also critical for those older adults who were house bound or experienced other disabilities which prevent them from accessing information on their own. One of the participants who found it difficult to make it to the Senior's Centre for coffee had friends frequently visit her to pass on information, while another older gentleman with poor eyesight relied on friends to pass along information which could be seen on the posters or brochures around town. Health professional stakeholders corroborated this, identifying the importance of friends for both spreading information and providing assistance.

Some of these people out in rural... may not have family either, so they develop friends or people that maybe two people that can be in touch with each other.

4.3.3 Health professionals. Health professionals, including doctors or nurses, were identified as sources of information sometimes or frequently used by 80% of participants. Health care providers were also identified as a primary source of information for a number of information topics, in particular the majority of older adults identified them as the primary source for information for personal care services (82.5%) and health services (87.5%). However, data concerning pharmacists as a source of information show several contradictions, and is the first evidence of the difference between “use” of an information source, and obtaining or taking in information from that source. The first inconsistency identified in the data was within the questionnaire itself. While 83% of participants identified pharmacists as a source of information they sometimes or frequently went to for information, in questions about specific types of information, pharmacists were never identified as a primary source of information, and rarely even as a secondary source of information.

Further, data from the interviews revealed that very few participants ever contacted their pharmacist for information. What this suggests is that there should be a distinction between frequenting an information source, as compared to obtaining information. So, while older adults may visit a pharmacist frequently to refill prescriptions, they may not seek out information from their pharmacist beyond what is pertinent to their medication. However, a visit to a health care provider may be more likely to result in a wealth of different types of information. This is also supported by the analysis of the participant interviews which suggest that older adults in this community tend to turn to health care providers for all types of information, even for non-medical information. They are considered a trusted source, and when older adults are uncertain of what is available health care providers are likely to be one of the first points of contact: “[The health region] is probably where I would start looking for information [about home maintenance].”

Health professionals, namely nurses in this community, are one of the few formal service providers that are locally available. As much as health care providers would like to provide everyone with the services they need, sometimes the resources and funding needed to provide the services simply do not exist.

I had someone call from [a community], asking if I could come educate them on home care, and I said it's kind of a hard thing to discuss, because you don't want to open up a can of worms, and say these are our services... but then you can't provide them...

However, these health professionals have developed considerable knowledge of other resources outside of their jurisdiction to which they are able to refer individuals. They are important nodes of information and in discussion with participants, most know that if they have questions that the home care managers are the people to contact.

There's always coordinators, you know, like you have your home care nurses that come around, if I need something like that, I mean they come around... And if it gets to that point, I'm sure they would be quite reliable to recommend a place for you or whatever... But there is a coordinator for that so I would probably would be referred to somebody, to a coordinator.

Interestingly enough, informal referrals to services not provided by the health region, but given by health care professionals have caused the lines to be blurred as to what the health region itself is able to formally provide to the community and what is an informal referral or passing on of contact information to other service providers. House cleaning and maintenance (outside of light housework), for example, are commonly misconstrued by older adults in this community as services that are provided through the health region when they are not. These misconceptions have created circular issues. Older adults, believing the health region will provide specific services will immediately turn to a health professional for assistance, who then must spend time discussing what is actually available and how to obtain available services. This leads to frustration on the part of older adults who believed they'd be able to receive assistance, and may not. One health professional explained,

Often clients and families don't know what home care can provide as far as services, and it's on an assess need, so what one person is receiving doesn't necessarily mean another person will. And some of the services they often feel would be available would be like yard maintenance, or washing, or doing seasonal cleaning and those things, are not included. So you basically have to explain what is offered, and some of the services which are offered such as meals on wheels, have a separate assessment. And it depends whether we can accommodate that service, at that time, just due to numbers.

The health care providers themselves face challenges in disseminating information about their programs. The main issue they describe is being able to clarify that the system is needs-

based, with need defined by assessments that are completed by the home care manager. Since it is considered difficult to explain to individuals how the health region services work, often health care providers decide that it is better not to pre-emptively discuss services that the health region has, as they are not available to everyone.

I think with home care, it's difficult to do that because it is so personalized, yeah we have all these services to offer, but that doesn't necessarily mean that you are going to receive all those services, it is dependent on your condition or your disability at that time. And where you live. Like meals on wheels can only be offered in towns that have a facility that will deliver those meals. There is definitely a bit more challenges, because they are rural.

This leads to a situation where information will only be given to older adults in a time of need or crisis. Being in a time of crisis can impair the ability to make a careful decision, as there is less time to absorb and think about the information presented. One health care provider described the difficulty of trying to give information to older adults in a time of crisis:

Even when you're doing an assessment with a client, when they come on to the program for a particular service, you can be discussing other programs and services to them, and it almost seems, you'll be going back to visit them, and they almost didn't hear it. They only took in what they needed at that time, and the rest of the things they seem oblivious to, until you point it out to them, we do have this, we can support you in this area. Usually we are assessing them at a crisis time, and we have a fairly lengthy assessment, so they can only intake so much information, so they probably weed out what they need and what they don't.

Doctors are often the first point of contact for many older adults in this community to be referred to nursing home care services. Typically, it was only after a medical incident; a fall, stroke, heart attack or other surgery, that they were referred to these services. All the participants in this study who were currently receiving nursing care did not have to seek out the service but were referred through their doctor. The nurse who was interviewed corroborated this, stating that almost all her clients were seen only after a doctor had referred them. Doctors were also seen as responsible by participants for providing information on housing options and of course, medical information. Many participants described their experience of receiving print information directly from their doctor, or being referred to "the wall of information", as commonly called by participants. This is a wall containing numerous brochures and pamphlets typically located in every hospital or clinic. However, after these initial referrals, doctors are not typically sought out for follow-up advice.

I think the doctors are good for reference too. [My husband's] dad lived with us for 28 years, and there was a time when the doctor thought he should be going to a care home, and gave him information.

The choice between a doctor, nurse or other health professional is not based on the type of information sought, but rather whoever is locally available. Older adults in this community have personal relationships with the local providers, and know them by name. The health providers themselves also noted that being in rural areas allowed them to build considerable rapport with their patients, and in developing these relationships the older adults felt safe to ask for more information or advice on issues.

I think it's important to note, especially in rural health care, that they see a lot of the same people all the time, and that the employees can really build a good rapport with the clients, so after the first initial couple visits, they really start to feel comfortable with the nurses, CCA's and managers.

4.3.4 Printed materials. Printed materials (pamphlets, brochures and posters) are widely available within the research community. Around town there are several bulletin boards located conveniently where posters are commonly left, such as at the post-office, grocery store, church, town office and senior's centre. The researcher observed that local events were advertised here, as was the availability of local help, such as a student looking to do yard maintenance for the summer or to shovel driveways. For those who attend church, a weekly bulletin is handed out containing a schedule of local events. As previously described, many older adults also report receiving print information from their doctor or nurse when they went for appointments, or they themselves chose to browse through the "wall of information". The health region stakeholders also stated that they had several print material resources available to the public, including pamphlets and a health region "newspaper".

Well if you go to the, if you go to the doctor's office or whatever, they have a stand there with all kinds of pamphlets and what have you, I mean you can pick up a pamphlet and read it, bring it home and read it if you're interested in it, and ah, stuff like that. But it's mostly for health, let's say problems, eh?

Although print materials are widely available and present within the community, only 43% of those who filled out the questionnaire identified print materials as a source of information they sometimes or frequently used. Further, in the questionnaire print materials were identified by older adults as a secondary source of information, rather than a primary source.

This is consistent with data from the interviews as participants typically discussed print materials as a secondary or complementary source of information to information given via word-of-mouth or in-person. Alternatively, print materials can be viewed as a good tool to launch information dissemination. For example, in this community even if every person does not see a poster on the bulletin board, if a few individuals do see it, information was observed to be subsequently passed along via word-of-mouth.

4.3.5 Internet. Only 20% of older adults who completed the questionnaire used the internet to find information, making it the least used source of information in this specific population. As with print materials, the internet could also be considered a complementary source of information, typically being used in conjunction with other information sources. Overall, there were mixed feelings about using the internet. Negative attitudes were held towards the internet for a few reasons:

(1) Frustration due to the complexity of using technology

No, nothing. No I fight with it. I'm not a computer person, I do the farm books on it, but my blood pressure I'm sure goes sky high. I just get so frustrated.

(2) A lack of knowledge of how to use technology and navigate the internet

We don't even have a computer, we are completely illiterate when it comes to computers.

(3) Overwhelming amounts of information

Oh yeah a lot of times it [the internet/websites] can get confusing. And then you get another piece of information and it's "Oh I didn't know that", and then you're way off track into something else.

(4) Distrust in the information

You can't always trust everything on the internet, it'll all lead to cancer.

(5) A perceived lack of usefulness

I'll be honest with you, I don't have a computer. I just have not gotten to the point where I need a computer or even a laptop or whatever.

(6) Difficulty finding effective search terms and then understanding the information were also observed. While distributing a questionnaire, a participant decided to look up one of her drug prescriptions to find out more about it, on her iPad. After typing the name into Google, and

picking the first site, she turned to me and said “do you understand what this says?” She found the medical terminology to still be too complicated for her understanding.

Those who viewed the internet with a positive attitude described the usefulness of the technology in enabling them to stay in touch with friends and family through email, Skype and Facebook.

Yeah I have, an iPad. Yeah the kids got it for me a couple years ago and I’ve really enjoyed it. I just email, and I’m on Facebook.

4.3.6 Media. Media sources (newspaper, radio and T.V.) are the best example of the need to differentiate between simply “using” a source and obtaining or taking in information from a source. The questionnaire data showed that 58% of older adults sometimes or frequently read the newspaper, 73% watch television, 48% listen to the radio, and 45% read magazines. However, rarely were these sources identified as primary or secondary sources of information. Notably, however, the newspaper was a common secondary source of information on the topics of housing, social events, home maintenance and health services. This is consistent with interviewees who described being able to find out about local community events and social groups in the newspaper. The researcher also observed that several service providers advertise in the local newspaper.

Cause my girlfriend has finally, I’ve been telling her, find a senior group that you can go to, eh? Well she’s finally found one in the paper and she phoned them.

As with print materials, media sources are a useful way to begin information dissemination; it was identified that information gained from these venues often led to further information searching or discussion with family and friends. For example, if something interesting showed up in the paper or on T.V., it may be followed up by further information seeking on that topic:

I don’t think so, like I mentioned about, this um, the other day when they said on T.V. that, and then it was on my iPad that Splenda wasn’t any good, and I got thinking afterwards, where could I go to [for more information]?

However, even with this example we can see that print materials, internet and media sources did not satisfy her information needs. Even after using these venues she was left feeling confused and looking for other sources of information to clarify what she had heard and read.

4.3.7 Preferred source of information. The questionnaire asked participants to select a primary source for each type of information, and then select any other sources of information they would potentially use to get information on these topics. The Chi-square tests found only one significant result (Table 6), which is that using the internet to find information was significantly correlated with younger age, where those under age 74 used the internet to find information more often than those 75 and older. The preference for use of sources showed no association with gender, education or economic status. The t-test for the difference in the number

Table 6. Cross-tabulation of age groups and use of sources of information.

Source of Information	Age		χ^2	P
	Under 75	75 and Over		
Use health care provider	13	19	0.23	0.63
Do not use health care provider	4	4		
Use pharmacist	14	19	0.0004	0.98
Do not use pharmacist	3	4		
Use friends	12	17	0.05	0.82
Do not use friends	5	6		
Use family	14	20	0.16	0.69
Do not use family	3	3		
Use newspaper	9	14	0.25	0.62
Do not use newspaper	8	9		
Use internet	6	2	4.32	0.04
Do not use internet	11	21		
Use television	10	19	2.77	0.10
Do not use television	7	4		
Use radio	7	12	0.47	0.49
Do not use radio	10	11		
Use print materials	8	9	0.25	0.62
Do not use print materials	9	14		
Use magazines	7	11	0.18	0.68
Do not use magazines	10	12		

**p-value <0.05

of sources used between those under age 75 (N = 17) and those over (N = 23) was significant for housing information, social events, home maintenance information, transportation information, health care information, and financial information. This means that those under 75 were more likely to seek multiple sources for these topics of information, as compared to those 75 and over. There was no significant difference in the number of sources sought for personal information

between the two age groups (Table 7). Education had a significant difference only on the number of sources chosen for *housing* ($p = 0.031$) and *social events* ($p = 0.049$); whereby those with a grade 12 and over used more sources than those with less than a grade 12. Gender showed no significant difference on the number of sources chosen. Economics was considered a negligible factor in this study since only 2 individuals claimed to have some economic difficulty.

Table 7: Impact of age on number of sources used to find information.

Type of Information	<u>Mean</u>		t	p
	Under 75	75 and over		
Housing	2.82	1.70	2.35	0.024
Social Events	3.71	2.17	3.85	0.0004
Personal care services	2.76	1.87	2.01	0.05
Maintenance Aide	2.65	1.52	3.74	0.001
Transportation	2.29	1.43	2.88	0.007
Health care services	2.53	1.52	2.69	0.01
Financial Information	1.59	1.04	2.40	0.02

**p-value <0.05

The questionnaire data suggests that the oldest-old seek out information from a fewer number of sources than the young-old. Tying these results to what was learned from the qualitative data, we know that having a personal relationship, and being able to speak to someone face to face is preferable for older adults in this study. This suggests that older adults may prefer to go to a trusted individual who can give them the information directly, rather than seek information from multiple sources. For example, participants were asked about accessing the health line (a toll-free number for health questions) most simply stated they'd rather call their own health care provider. Additionally, one of the issues that participants had with information dissemination was the feeling that service providers didn't take time to verbally explain and answer questions about the information they were passing on through printed materials. Participants identified that although they were given printed information materials, what they would really like, is someone to take time to explain those.

And then like I find another thing too, like you go to the bank, or whatever, it's hard to get the information from them as well. You know, like it's, they throw this stuff at you, but they don't have time to explain it. And you come out of there going, I don't know any more than when I walked in!

The issue with relying on word-of-mouth to pass along information, however, is the accuracy of information which is passed. The researcher observed numerous occasions when, what could be considered by the research as false information or misconceptions, were being passed among community members. This included personal opinions on the use of a certain medical treatments or the effectiveness of the vaccines. For example, the false assumption made by participants that if a medication or treatment did or did not work for one person, then the same results could be expected if another person were to use that medication. Although most older adults did identify that things they heard at the coffee shop should be accepted with caution, it was also observed by the researcher that often an opinion expressed by one, soon became the opinion of many.

Well I was going to say everyone yeah, if it's in town we usually know about it, like the coffee shop, yeah the coffee shop, like that's where we get most of our information... whether it's right or not. Gospel truth.

However, there are several challenges with other information resources that are not in-person. In the case of using online resources, or even the phone book, choosing the correct key words to search for was identified as an issue for some participants. Participants in this study also discussed poor experiences with automated telephone directories, which are a common method for information dissemination used by organizations. They can cause confusion especially for older adults with hearing loss. Print materials and media sources present obvious challenges to those experiencing loss of vision. Beyond this, if the print information is presented at reading level above the capabilities of the individual, it is not useful. This is especially the case with excessive use of technical terminology. The researcher experienced numerous occasions where older adults asked for clarification of what certain terms meant after they had read through information on a website. These challenges should be taken into consideration when creating information resources and materials for older adults.

4.4 Information Needs

When discussing service and information needs, now and in the future, many participants made it clear that they hadn't thought too hard about what lay ahead. As one participant put it:

We don't want to worry about the problem till it happens... One thing too, with us right now, we're kind of cruising along and enjoying life type thing, and you know, the day will come when we'll be thinking more seriously about all this, but the numbers, the age, tells us, you have to think logically, and of course we would like to be able to stay in our own community. And I'm wondering if society is prepared to be able to accommodate all the Seniors that are coming up in the very near future.

This comment ties together several key themes. The first, as previously discussed, is the challenge around the lack of locally available resources for rural seniors. The second, is the expressed desire to be able to remain in their own community, which is notably, the goal of developing more age-friendly communities. Finally, the third theme relates to the discussion around when and what information is sought by older adults, which leads into the discussion of information needs.

The perspective of not "worrying about the problem till it happens", or in a moment of crisis, has been briefly touched upon in the discussion of accessing information from health providers. The health region stakeholders described their experiences with older adults seeking information in moments of crisis, and how they believed that doing so did not allow individuals to take time to absorb and think about the information presented to them. This issue of information seeking in times of crisis was previously discussed in the context of limited services and the subsequent inability of service providers to adequately disseminate information. However, the other side of this issue lies in the individuals' perception of information seeking. Many older adults in this community have the perception that you should not have to actively look for information; rather, if it is essential information it should be given to them directly, with no searching necessary. A good example is:

It's really up to government to let those people know, the heads of communities, that is, what they will support. You don't have to, you shouldn't have to go looking for [information] necessarily.

This perspective of passive information seeking or uptake is also reflected in the preference for word-of-mouth information. When older adults need information, it is sought through conversation or can be found through direct questioning of a source.

In addition, for some older adults in the research community, information must have applicability to their current situation, or it is deemed irrelevant. This is evident in the number of times participants chose “I do not need this information” in the questionnaire. For housing information 25% selected that they did not need this information, social events 5%, primary care services 5%, home maintenance 10%, transportation 12.5%, health information 5%, and finances 7.5%. For some individuals, the information being asked about simply was not pertinent to their current situation or any foreseeable future. In addition, it was observed several times while participants were filling out the questionnaire that older adults stated they did not really think about the topic of discussion because “I don’t need that”, as previously discussed this was one of the challenges older adults had in filling out the questionnaire. This is not, however, a denial of realities, but rather is a testament to how they view information seeking: information is unnecessary until the point of need. Thus, in discussing “information needs” of older adults throughout this section, it should be noted that the researcher prompted different types of information that were likely to be needed in the future. Rarely did the older adults offer that they sought out a specific piece of information themselves. From the participants’ perspective, what they needed was the resource or service, not the information. The researcher would ask about the resource or service, and prompt for how participants would go about obtaining information about the service. So, throughout this section the lines between information need and service need are often blurred.

4.4.1 Transportation. Geographic distance is the greatest barrier for a rural community with limited resources, making transportation a key topic of discussion. Transportation is needed to access most services, and was identified as a priority issue and barrier by numerous older adults in this community. There is no bus or taxi system available, resulting in the need for a large base of volunteer drivers. Lack of transportation infrastructure means there is no “transportation information” to be had. So, when discussing transportation in this community, it was simply a question of how older adults went about obtaining rides to get where they needed to go. Thus, 80% of older adults who completed the questionnaire identified friends (38%) and family (42%) as being their primary source of information for transportation, reaffirming that friends and family fill the role of caregiver when no other option is available.

For some older adults, the loss of the ability to drive would mean the loss of independence. This often results in the need to move to a larger urban centre where they don’t

require transportation to access the needed services. Additional challenges arise for those who cannot drive and are uncomfortable asking a friend or family member for a ride. They may turn to a local town volunteer, but volunteer drivers can charge as much as they wish. This is a serious deterrent for individuals who may not be able to afford it. Other issues occur when health care providers do not take transportation of their patients into account. In the research community, there have been instances of health care providers requiring their patients to travel to see them for follow-up appointments regularly. This may be the result of health care providers failing to ask patients about their mode of transportation. In observation notes the researcher noted an instance where an individual in the community who had suffered a heart attack mentioned that they had to drive to their follow-up appointment 100km away just days after the incident.

4.4.2 Home maintenance and cleaning. Having assistance with maintaining the home is important for the well-being of many older adults, especially to reduce possible injuries. The few older adults who currently have hired help to come in and clean, did so after experiencing serious falls. Since there are no formal home maintenance companies in town, when looking for assistance, 37% of older adults turn to family, and 35% turn to friends, while 10% believe that they may be able to get information from a health professional.

Those who thought that the health region would provide home maintenance services believed so because they had heard through word-of-mouth that other older adults in town were receiving both nursing care and cleaning services. Again, this is a case of misinformation and is the result of blurring lines between an informal referral made by a health provider and a formal service offered by the health region. For a few participants, interviews revealed that they had previously worked as a home care aide and part of their job was to clean homes. They therefore assumed that they could still access these services, but were unsure. This, again, is a result of changing services over time and poor information dissemination on the part of service providers about how services have changed. For older adults who turn to family, they expected that it would be their own family who would provide the assistance in home maintenance. Those who turn to friends aimed to find out if anyone in town would be available to assist them. For specific tasks such as an electrical or plumbing, older adults specified that they knew a specific person in town who could help, otherwise they would have to “ask around” or use “word-of-mouth”.

Home maintenance? Yeah people in town... Word of mouth? Mostly it is yes... if somebody knows, if we're looking for somebody to do something, and somebody happens to know someone, that's where we find out.

4.4.3 Personal and health care services. Eighty-two percent and 87% of older adults who completed the questionnaire identified health care providers as their primary source of information for personal care and health services information, respectively. Home care is an extremely valuable resource for older adults who wish to stay in their homes, and is often the first point of entry into the health care system. As discussed, doctors are typically the referral source for these services. Otherwise, individuals will directly approach the home care manager in the health region.

I think I made arrangements in Regina I think, a long time ago already, but I'm sure that's how it was, I told [the doctor] that I needed someone to come, so they're still coming.

In the research community only a handful of individuals are accessing nursing or home care services, and these individuals were connected to these services through their doctors. Most individuals in town have an idea of what is available, but as discussed, what they believe is available and what actually is available are not always the same. Otherwise, there is a general uncertainty of how the system works and how to go about accessing services. In the case of uncertainty, many older adults depend on family and friends to be there as a source of support and assistance to help navigate the system.

4.4.4 Housing. Questionnaire participants identified family (28%), friends (15%) and health care providers (13%) as the three main sources of housing information. For the most part older adults in this community plan on staying in their own homes as long as possible. Only a few discussed the possibility of moving elsewhere to be closer to doctors, otherwise, for most, the next move would not be one any of them wish to make and that would be to a long term care facility. The topic of housing would have been better broken down into types of housing, as individuals identified different sources of information for different types of housing. For moving elsewhere in town, or to the local low-income housing complex, older adults suggested that the local Housing Committee would be the people to contact. Those who thought about moving elsewhere specified that it would be family that they would turn to for assistance and information. Participants who brought up long term care facilities specified health care providers would likely be their information source.

Well housing, I'd go to the village probably, the village housing, and the low cost is [another manager], like she looks after the low cost we have, like the housing committee, and ah... yeah I'd probably start with the village, and hopefully he could set me up to let me know what would be available.

4.4.5 Social events. Sixty percent of those who filled out the questionnaire specified friends as being their main source of social event information, followed by the newspaper (15%) and print materials (10%). Between word-of-mouth, newspaper and local bulletin boards with posters, information about local events typically gets around quickly. In this community, it was observed that there are many opportunities for both formal and informal socialization. There are informal coffee groups three times a day (morning, afternoon, and evening) plus daily pool and card games. Outside of this, there is a formal exercise group twice a week, regular events through the Seniors' Centre, multiple church groups who run events and activities, an active Library Committee, Knights of Columbus, 4H and Lions Club to name a few. Everything is locally run, and dependent upon the involvement of community members. Several people noted that you could get as involved in or uninvolved in as much as you wished.

4.4.6 Financial. Questions about personal finances are usually directed to a personal accountant or bank, with 70% of participants identifying them as their primary source of information. A distant second to this was family (18%), who were typically identified by participants as having knowledge of accounting. Of note, one of the few resources in the village is a bank. Thus, having a resource located within nearby allows older adults to directly access knowledgeable personnel, rather than depending on friends and family. The local bank has also been active in the community by providing information sessions on various topics, including setting up wills, another positive result of having resources located within close proximity.

4.5 Summary

Findings from this case study are summarized in Table 8. Taken together they indicate that a rural context can positively influence information access through strong community cohesion, social support, and a large informal caregiver force. However, geographic isolation and limited access to local service providers decreases the availability of information. Overall, the preferred method for information exchange for this group of rural older adults was word-of-mouth and particularly receiving the information face-to-face. While print materials are available

around the community, they are considered a complementary source of information. Lastly, the information needs of older adults closely align with service needs.

Table 8. Summary of Findings.

Research Question	Findings
What are the information needs of older adults in rural Saskatchewan?	<ul style="list-style-type: none"> • Information needs closely align with service need • Information is often only sought in a moment of crisis, typically after a medical emergency • Accurate information needs to be provided to this community regarding accessible and available services
How do rural older adults find information and what influences their selection of the source of information?	<ul style="list-style-type: none"> • The preferred method for information exchange is word-of-mouth • Word-of-mouth, via face-to-face contact is preferred due to the ability to clarify information being received • Print materials, media and internet sources are typically considered complementary sources of information; although they are often ‘used’ • Information that is locally available and easily accessible is sought out first • If a service is present within the community, then the source (person) is sought out directly; when a service is not present within the community, friends and family are the main source • Internet is the least used source amongst older adults in this community, and those who use it often describe it positively for its use in connecting with distant friends and family
What are barriers and enhancers to accessing information in a rural setting for older adults?	<ul style="list-style-type: none"> • Strong social support and community cohesion supports a rich environment for information exchange • Presence of informal caregiving amongst both family and friends allows for easier provision of information to those in need • Geographic isolation and limited locally available services decreases the availability of information • Poor communication and coordination amongst service providers, leaves gaps in service provision and poor information dissemination

Chapter 5: Discussion

5.1 Introduction

This chapter re-contextualizes evidence from the case study within current information-seeking research with a focus on what this means for older adults in rural Saskatchewan. The chapter begins with an overview of strengths and limitations of the study. The discussion that follows brings together the experiences of community-dwelling older adults and information from community stakeholders, and places the results within the context of a rural Saskatchewan community. In addition, the discussion draws comparisons and connections between what was identified in the case study and what was presented in the literature.

5.2 Strengths and Limitations

A case study methodology allowed for the in-depth exploration of a single rural community within Saskatchewan using multiple data-collection tools. Even in the relatively short time of 3 months the researcher spent doing fieldwork, the researcher could make strong relationships that allowed for the collection of thick, rich data that facilitated an in-depth analysis of issues. While unique to its context, this study demonstrated several consistencies with previous research assessing the information-seeking experiences of older adults, which increases the transferability. In addition, carrying out this study in a rural community that had minimal resources offered a unique perspective not seen in other research on the topic.

Of note, comments about service provider communication and local governmental organization were based on the area that the community is based in. Other locales may have unique and more positive experiences. However, these results do present a useful perspective on failed communications amongst governments and service providers. The quantitative data presented in this study has limited generalizability due to the specific and small population assessed. In addition, the questionnaire and interview tools that were used had not been piloted in any previous studies. As a result, there were some challenges encountered regarding wording and general understanding. However, these challenges presented an opportunity to provide a unique insight into how older adults understood concepts of information-seeking.

The use of the Active Ageing Framework (WHO, 2002) combined with the Age-friendly Cities Guide (WHO, 2007) allowed for information and communication to be explored within

the context of aging in place. Both the Framework and Guide approach health and aging from a broad perspective, acknowledging that multiple sectors need to take an active role in promoting age-friendly initiatives. This approach also fits the case study methodology, as the framework and age-friendly initiative guided the researcher's exploration of services and supports at the local level, but then also required expanding that view to include government and non-government structures which influence the study population. Discussing challenges and supports within the context of age-friendly communities will ideally lead to the development of information access and provision interventions for rural communities.

5.3 Re-contextualizing the Evidence

5.3.1 Information needs. The information needs of older adults in the research community are diverse, context dependent, and closely align with service need. Community development and community-based research studies corroborate these findings, showing the information needs of older adults to be expansive - including health, income and finance, recreation and leisure, and housing and accommodation (Everingham et al., 2009; Hislop, 2010; Klée, 2009; Ryser & Halseth, 2013; Wicks, 2004). In this community, most participants *did not* consider information as a need, rather they considered the services themselves to be needed. Most older adults were under the assumption that if they so choose to actively pursue a piece of information, they would be able to obtain it. This assumption is related to the concept of active versus passive information seeking; the perception that rather than being pursued information is received or encountered (Altizer et al., 2014; Yates et al., 2009). Passive information seeking means that while participants may have access to information, they do not engage in acquiring or applying that information until a need arises. Passively seeking information is associated with difficulties encountered by older adults who seek information only in a moment of crisis, at which point there may not be adequate time to access appropriate information and assess all the options (Burgess, 2010; Everingham et al., 2009; Hislop, 2010). Seeking information in a moment of crisis presents an issue in identifying information needs. Older adults could not accurately identify what information or services were available since they had not needed to access them, therefore they could not identify what more information they would need.

There were, however, some active information seekers in the community, and they described the challenge of obtaining information to be a result of convoluted system structures

and overwhelming amounts of information to sift through. So while previous studies describe a paucity of information resulting in uninformed seniors (Briggs et al., 2012; Newell et al., 2009), the case in this community presents itself differently. Given passive information seeking behaviours, and an overly complex system that can be intimidating to active information seekers, older adults in the research community do not encounter issues of absent or faulty information at an early stage. Thus, they cannot identify wanting services or information before there is immediate need. Service providers could accept the challenge of raising awareness of issues occurring later in life to allow older adults to consider their options at an earlier stage (Burgess, 2010; Hislop, 2010). However, there is still the challenge of having older adults actively take up the information presented. Still, organizations and government bodies have some responsibility, and their failure to explicitly disseminate information on their roles and function has caused difficulty for many information seekers. Creating more easily navigable systems is key to alleviating barriers encountered by older adults.

5.3.2 Sources of information. Older adults in the research community preferred to receive information via word-of-mouth, which is consistent with previous studies on the topic (Asla, Williamson & Mills, 2006; Capel, Childs, Banwell, & Heaford, 2007; Everingham et al., 2009; Hislop, 2010; Hurst, Wilson & Dickinson, 2013; Wicks, 2004). Word-of-mouth sources, or human sources, include family, friends, health professionals, service providers and other interpersonal sources. The preference of which human source to obtain information from is dependent upon accessibility (Altizer et al., 2014; Capel et al., 2007). In this community, if a service provider was located within town, that service provider was sought out directly; if they were not conveniently located, friends and family were sought out first. Other rural-focused research reports similar results, finding that the choice between a specialist, general practitioner, friends or family had to do with whoever was locally and conveniently available (Heuberger & Ivanitskaya, 2011). This emphasizes the importance of having locally available information resources. Many service providers attempt to alleviate this paucity by providing telephone services and directories. However, participants in this study discussed poor experiences with telephone directories. They cause confusion when dealing with automated phone-answering machines, especially when older adults may be experiencing hearing loss. Thus, face-to-face contact is the most preferred method of information exchange.

The rationale for the preference of word-of-mouth or human sources, over other sources, may be linked to a need for assistance in interpreting information, which is especially the case with older adults who may feel overwhelmed by information (Everingham et al., 2009; Hislop, 2010; Stansbury & Ludwick, 2009). Additionally, the trustworthiness of information sources has been found to influence their selection. Chaudhuri and colleagues (2013) used a survey to analyze the trust of older adults in relation to various sources of health information. Older adults were found to have the greatest trust in health care providers, followed by pharmacists, then friends and relatives, retirement community staff, newspaper, internet, television and lastly, radio. In the current study, trustworthiness and credibility is demonstrated through the information-seeking behaviour of older adult participants. Family and friends were often described as individuals that older adults would use to ‘fact-check’ information gained from other sources, suggesting trust in close relationships. The dependence on health care providers for a variety of information topics also suggests strong trust in these individuals, and is good example of the close relationships that can be built in small communities between service providers and older adults. Nonetheless, some participants described taking information received in informal settings ‘with a grain of salt’, acknowledging that perhaps their friends and neighbours may not always be credible sources of information. Even so, as previously noted, through observation it was found that many older adults still trusted their friends and neighbours’ advice over someone they did not know, regardless of the credibility of information passed along. This suggests that trustworthiness of a source, regardless of actual credibility, is associated with the uptake and use of information.

Print materials and other media sources were often identified to be secondary or complementary sources, whereby participants would use these materials to supplement information gained from word-of-mouth sources; a situation that is suggested within the literature as well (Capel et al., 2007; Everingham et al., 2009; Wicks, 2004). While perhaps not primary sources of information, print sources can trigger information seeking, whereby some piece of information is gained, leading to a more in-depth information search. Print materials are also useful for simple information dissemination, as in the case of community social events or advertising. Alternatively, information communication technologies (ICTs) or web based services, while touted as practical resources that would allow older adults, especially those in rural areas, to be engaged in their communities, reduce social isolation and improve their overall

quality of life (Hislop, 2010; Warburton et al., 2014), are not as successful in the research community. Just 20% of the population who participated in the questionnaire used internet technologies, and while few described it positively for the increased means of communication with distant family and friends, most comments were negative. Negative attitudes were held towards the internet for a few reasons: (1) frustration due to the complexity of using technology; (2) a lack of knowledge of how to use technology and navigate the internet; (3) overwhelming amounts of information; (4) distrust in the information; (5) a perceived lack of usefulness and (6) difficulty finding effective search terms. Other challenges in the use of ICTs described in the literature include poor connectivity in rural areas, cost, lack of awareness of opportunities, decreasing manual dexterity and visual impairments (Everingham et al., 2009; Gilroy, 2005; Nguyen et al., 2015; Warburton et al., 2014; Wicks, 2004).

Notably, the use of internet in this study was found to be significantly less for those over the age of 75, compared to those under 75. This is congruous with other research which finds the use of internet to decrease considerably with age (Everingham et al., 2009; Heuberger & Ivanitskaya, 2011; Stansbury & Ludwick, 2009; Wicks, 2004). The change in information seeking behaviour with age is also present in the significant difference observed between the number of sources sought out by those over the age of 75, as compared to those aged 60 to 74. A few studies have also found this difference in information seeking behaviour with age (Asla et al., 2006; Stansbury & Ludwick, 2009), suggesting that as age increases, older adults are less likely to actively seek out information on their own. Older adults are more dependent upon caregivers and service providers to find and provide information directly to them (Asla et al., 2006; Stansbury & Ludwick, 2009). In addition, researchers have found that there is a difference in the trust of sources between the “oldest-old”, defined as aged 85 and over, and the young-middle old, aged 65 to 84 (Le et al., 2014). The oldest old were found to have lower trust in internet, radio and television. All age groups had the greatest trust in health care providers (Le et al., 2014). This difference in trustworthiness further explains why older adults tend to choose human or word-of-mouth sources when seeking information.

All of this suggests that information should be made accessible through as many modes as possible. However, while information can be provided in large amounts, it is of little consequence if there is no understanding of the presented information. Therefore, to support older adults in making informed choices, services must also exist that aid older adults in

understanding all appropriate and available options, or at the very least, having service providers spend more time advising and explaining information. It is not enough to simply ‘provide’ information in the form of print materials or online. Several seniors’ organizations across Canada, Australia and the UK are moving towards a ‘one-stop shop’ information layout, where older adults can easily access information about all options from one place and receive advice (Burgess, 2010; Everingham et al., 2009; Klée, 2009; Ryser & Halseth, 2013). Although these initiatives take a considerable amount of coordination, and are typically run by funded organizations, they have shown considerable success. Saskatchewan does have a “senior’s directory” available in a print and online pdf, which provides phone numbers, websites and anecdotal information on services. However, older adults are still solely responsible for making individual contacts with each provider and the dissemination of this directory certainly did not reach the community in this case. While helpful in providing basic information on government services in Saskatchewan all in one place, it simply is not enough.

5.3.3 Barriers and enhancers to accessing information. With a preference for in-person information exchange, the greatest barrier to accessing information for older adults in this community is the lack of locally available services. This barrier presents several challenges, the first is the need for transportation. Without publically available transportation, and with many older adults losing the ability to drive safely with age, there becomes a strong dependence on friends and family to fill the role. For information-seeking, the need to travel simply presents another step prior to being able to access in-person sources. This step of securing transportation may be a deterrent to information-seeking, because while some older adults see obtaining transport as a minor inconvenience, for others it represents a loss of independence which may result in the decision to forgo seeking information and aid. This may contribute to the reports of rural seniors having worse physical health status, less use of preventative care and more chronic illnesses than their urban counterparts (CIHI, 2011). Secondly, without services conveniently located, participants sought information from friends and family. Although sometimes helpful in providing assistance, information passed amongst friends and family is at risk of being inaccurate and unreliable.

A second barrier presented in this case, as previously mentioned, is the complexity of navigating services. Participants identified that they often wished they would have received more information and advice from their service providers. This may be alleviated by the previous

suggestion of having service providers spend more time with clients, or providing additional information and advice services. Yet, in addition to the shortage of time that service providers can spend with clients, the paucity of information presented by them appears to be the result of overly complex system navigation. While many participants in this study did not express great concern over navigating the system, believing that if they spoke to the service provider directly they would receive what was needed, it was the researcher that identified the issue through inconsistent feedback from participants and stakeholders. Further, through interviews with service provider stakeholders, the researcher directly experienced the complexity of navigating the system. There was considerable difficulty finding out what services were available to community dwelling seniors, and even now, availability of services remains unclear. The service providers interviewed in this study were hard-pressed to find simple explanations, pointing to the complexity of the information itself and the convoluted processes needed to provide support to those in need. Results from a study by Everingham et al. (2009) confirm this, revealing that community-dwelling older adults often felt that finding information was a maze, and the complexity of the information creates a convoluted and difficult process in satisfying information need.

Rural Saskatchewan communities continue to experience a slow decline in their populations, with the younger generations continuing to migrate towards jobs in urban centres. With a decline in family farms, many communities, such as the research community, have experienced the loss of their services, including schools and hospitals. Challenges arise for information access in these communities because of frequent structural changes in the way services and supports are organized and delivered, such as changes in hours, location, program eligibility, and referral and assessment processes (Ryser & Halseth, 2013). These changes often cause confusion amongst older adults who are attempting to access services and supports, especially for those who had prior experience and knowledge of the system. Beyond these issues, the organization of service providers into silos creates uncoordinated and insufficient options for community dwelling older adults. Many service needs fall upon the health care system, which simply cannot provide everything that is needed, nor should it be responsible for doing so. Assuming the health care system is responsible for most things is very common in this community, as health care providers are depended upon for all sorts of information outside of their jurisdiction. Not only does this take time away from the work health care providers should

be engaged in, but it causes confusion amongst older adults as to what services are provided and by whom. The needs of older adults are not only health-related, but cross boundaries to all sectors, hence the need to move towards more age-friendly communities where a more coordinated, preventative and pro-active approach is taken to healthy aging.

For such an approach to be effective it would likely have to be launched at a provincial government level. While the federal government and many provincial and territorial governments in Canada have launched Age-friendly initiatives, the Saskatchewan government has failed to do so. Age-friendly initiatives seek to extend a “seniors lens” over all policy and program development. By allocating a bureaucratic body, typically a Seniors’ Secretariat or Seniors’ Advocate, provincial and federal governments have been able to create cohesive working groups made up of those interested in the well-being of seniors from both governmental and non-governmental organizations. These bodies within the government are pivotal to maintaining the representation of seniors in government for the successful development and implementation of programs, monitoring current seniors’ issues, services and delivery, and the provision of information. The absence of such a bureaucratic presence in the Saskatchewan government is noticeable. The Saskatchewan government lacks a framework or action plan for seniors, without which the focus has shifted off the needs of seniors. Further, brief interviews with individuals from the Saskatchewan Association of Rural Municipalities and local town administration revealed an absence of resources and supports specific to older adults. These local governmental bodies stated that any prioritization of seniors would have to come from higher up in the provincial government. While government bodies have not taken steps towards age-friendly policies, other non-governmental organizations have been working together to support *Age-Friendly Saskatchewan* to develop age-friendly initiatives across the province. However, as was found in this study, there appears to be a disconnect between the initiative taken by the non-profit organization, Age-friendly Saskatchewan, and the supposed involvement of RMs and health regions. Disconnect and miscommunication amongst service providers is an issue which needs to be remedied to successfully disseminate information and develop age-friendly communities; but first the Saskatchewan government must get on board.

The rich social environment of the research community is conducive to efficient and effective information exchange, even given the caveat of misinformation being passed along. Other research regarding information access in rural communities is consistent, finding that

while less services exist in rural areas, factors such as closer community networks and smaller populations lend themselves to easier information access (Lucke et al., 2008). Older adults in the research community play an integral role in creating strong community cohesion, especially through their volunteering efforts. Research regarding the benefits of volunteering and caregiving for older adults is expansive and includes reports of better health and reduced social isolation (McNamara & Gonzales, 2011). Beyond these benefits, older adults in the research community who take on the roles of volunteer and caregiver also benefit from increased knowledge as they assist others to find information. As such they are often central nodes of information within the community.

Often, amongst older adults in the research community, the caregivers were women. The few men who were found to take on the role as caregiver did so because their partners were dependent upon them due to medical conditions. This observation of gendered caregiving is consistent with cultural norms present in rural agriculturally based communities, where women primarily fill the role of caregiver. Other researchers define these women as “gatekeepers” of information due to their central role as caregivers, making them the go-to information providers for health and well-being concerns (Altizer et al., 2014; Goldner et al., 2013; Simmons et al., 2015; Wathen & Harris, 2007). The cultural norms that ascribe the role of caregiver to women are also linked to the strong family ties present in this community. Regardless of gender or age, younger relatives were greatly depended upon to provide assistance to older relatives. Within the research community the value of family was evident, and there appeared to be an underlying assumption that family is responsible for providing information and care. These informal social supports play a key role in supporting information seeking and access in rural communities.

5.4 Conclusion

The overarching aim of this study was to reveal the information-seeking experiences and needs of older adults which support them in successfully aging in place within a rural Saskatchewan community. To summarize the key messages, the information needs of rural older adults closely align with service need, making them diverse and context dependent. Older adults in this community are often passive information-seekers having the expectation that information is received or encountered rather than pursued. This leads to situations where older adults only seek information in a crisis situation where there is inadequate time to properly consider all the

information and make the best decision. While the onus is upon rural older adults to plan for the future by obtaining information prior to a crisis situation, it is also the responsibility of service providers to encourage engagement in life-planning, and provide sufficiently clear and transparent information to this population.

While word-of-mouth and face-to-face information dissemination is preferred, information should still be conveyed through diverse venues and should be practical and easy to use. This research suggests that more assistance and advice is needed to adequately understand and use the information. Other research suggests that advice and information services have been successful in improving information dissemination, implying the need for interventions such as ‘one-stop shop’ information services (Burgess, 2010; Everingham et al., 2009; Klée, 2009; Ryser & Halseth, 2013). Having access to information is imperative to enabling older adults to make informed decisions and maintain their independence.

There are several challenges associated with accessing information to support aging in rural Saskatchewan. The lack of local services and geographical isolation necessitates travel, increasing the challenge of obtaining in-person information from service providers. Due to auditory and visual impairments, and other health challenges encountered with age, the use of other sources outside of face-to-face contact is challenging. While many organizations have made a move towards web-based information, attempting to increase information access in rural and remote areas, often there is inadequate ICT infrastructure, and as with older adults in this community, they simply do not use these technologies enough to benefit from online information. However, although many challenges are encountered, the greatest strength of rural communities is the social environment which provides an environment rich for information exchange. Informal caregiving practices and volunteerism within the community increases information flow, and improves the likelihood that information will reach even those vulnerable older adults within the community.

While many provincial governments have moved towards age-friendly policy and practices, the Saskatchewan government has not yet made this same commitment. Without this leadership, the cooperation and collaboration of provincial and local government leaders with service providers and non-governmental organizations is lost. This study identified a serious inadequacy of supports available to rural, community-dwelling older adults. This paucity of supports is hidden by convoluted and overtly complex system processes, which makes it

incredibly difficult to obtain accurate and transparent information, and causes confusion for many older adults. Improved collaboration and communication amongst service providers is needed, at the very least, to aide older adults in identifying what their service options are to allow them to age-well in place.

Having access to information enables older adults to manage their health, access proper services, deal with finances appropriately, reduces the risk of social exclusion and isolation, facilitates independence, and overall improves quality of life (Everingham et al., 2009; Gilroy, 2005; Hislop, 2010). This study finds that more needs to be done to improve not only access to information, but provide assistance to older adults in finding the appropriate information and advising. The development of any future interventions should be done in consultation with older adults, especially those in rural areas, to best meet their needs.

Appendix A: Questionnaire

Project Title: *Revealing the Information-Seeking Experiences and Needs of Rural Older Adults in a Rural Saskatchewan Community*

If you are **55 and over**, you are invited to participate in a research project entitled *Revealing the Information-Seeking Experiences and Needs of Rural Older Adults in a Rural Saskatchewan Community*. Please read this form carefully, and feel free to ask any questions you might have. This study is a research project being conducted as part of a graduate thesis research project for the University of Saskatchewan and is unfunded. The primary researcher of this research project is Kylee Wilyman, who is a graduate student in Community Health and Epidemiology at the University of Saskatchewan. The goal of this study is to reveal how older adults in a small rural community find and use information to maintain their quality of life. Then to use this information to increase awareness of what seniors need to maintain active, healthy and productive lives *within* their communities.

Attached is a short questionnaire that will take approximately 20 minutes to complete. Your participation is appreciated and completely voluntary; you do not have to answer any question you do not feel comfortable answering. This questionnaire is to be submitted anonymously and therefore any data or results will not be linked to you. By completing this questionnaire and submitting your results, you give your implied consent to the use of your data in this study. Due to the anonymity of this questionnaire it will not be possible to withdraw your results once submitted. Please seal your completed questionnaire in the envelope provided, and the researcher will pick them up at your convenience.

The research data will be housed at the University of Regina, as this is the location of the researchers office, while research is being completed on password protected computers and files and in locked filing cabinets/offices. Original journal or interview data and any other documentation will be stored long- term at the University of Saskatchewan for six years, after which it will be destroyed.

If you have any questions concerning the research project, please feel free to ask at any point; any questions regarding this project or your privacy rights as a participant should be directed to **Kylee Wilyman (toll free: 1-844-337-3252)** or the Research Ethics Office at the University of Saskatchewan (1- 888-966-2975). This study has been approved on ethical grounds

by the University of Saskatchewan and University of Regina Behavioral Research Ethics Boards on Feb. 25, 2016.

1) Gender:

- A. Male
- B. Female

2) What is your age?

- A. Under 65
- B. 65-69
- C. 70-74
- D. 75-79
- E. 80-84
- F. 85 and over
- G. Prefer not to answer

3) What is the highest degree or level of school you have completed?

- A. Less than high school
- B. High school
- C. Some college
- D. Technical degree
- E. Bachelor's degree
- F. Graduate degree
- G. Prefer not to answer

4) What is your marital status?

- A. Single, never married
- B. Married or common law
- C. Widowed
- D. Divorced or separated
- E. Prefer not to answer

5) Would you say your household is able to make ends meet?

- A. Yes
- B. No
- C. Prefer not to answer

6) Would you say you have enough income for the little extras?

- A. Yes
- B. No
- C. Prefer not to answer

7) Select all applicable sources of income:

- A. Employed – Full Time
- B. Employed – Part Time
- C. Employed – Seasonally
- D. Old age security
- E. Canadian Pension Plan
- F. Company Pension
- G. Guaranteed Income Supplement
- H. Friends
- I. Family
- J. Other. Please Specify:

8) Do you live within the town?

- A. Yes
- B. No, I live outside the community (rural)
- C. No, I live in another community

9) How often do you seek information from...

	Never	Rarely	Sometimes	Frequently
Health care provider (doctor, nurse, etc.)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Pharmacist	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Friends	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Family	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Newspaper	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Internet	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Television	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Radio	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Books	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Brochures/Pamphlets	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Magazine	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Non-Profits (i.e. Canadian Diabetes Association)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Church	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

10) Are there other sources you get information from that are not listed above?

11) When searching for information about housing (renting, moving, retirement living, etc.), where would you look first? (Choose one)

- A. Health care provider (doctor, nurse, etc.)
- B. Pharmacist
- C. Friends
- D. Family
- E. Newspaper
- F. Internet
- G. Television
- H. Radio
- I. Books
- J. Brochures/Pamphlets/Posters
- K. Magazines
- L. Non-Profit Organization (i.e. Canadian Diabetes Association)
- M. I do not need this information
- N. Other:

12) When searching for information about housing (renting, moving, retirement living, etc.), where else would you look? (Choose ALL that apply)

- A. Health care provider (doctor, nurse, etc.)
- B. Pharmacist
- C. Friends
- D. Family
- E. Newspaper
- F. Internet
- G. Television
- H. Radio
- I. Books
- J. Brochures/Pamphlets/Posters
- K. Magazines
- L. Non-Profit Organization (i.e. Canadian Diabetes Association)
- M. I do not need this information
- N. Other:

13) When searching for information about social events (community events, gatherings, recreation, etc.), where would you look first? (Choose one)

- A. Health care provider (doctor, nurse, etc.)
- B. Pharmacist
- C. Friends
- D. Family
- E. Newspaper
- F. Internet
- G. Television
- H. Radio
- I. Books
- J. Brochures/Pamphlets/Posters
- K. Magazines
- L. Non-Profit Organization (i.e. Canadian Diabetes Association)
- M. I do not need this information
- N. Other:

14) When searching for information about social events (community events, gatherings, recreation, etc.), where else would you look? (Choose ALL that apply)

- A. Health care provider (doctor, nurse, etc.)
- B. Pharmacist
- C. Friends
- D. Family
- E. Newspaper
- F. Internet
- G. Television
- H. Radio
- I. Books
- J. Brochures/Pamphlets/Posters
- K. Magazines
- L. Non-Profit Organization (i.e. Canadian Diabetes Association)
- M. I do not need this information
- N. Other:

15) When searching for information about personal care services (home care), where would you look first? (Choose one)

- A. Health care provider (doctor, nurse, etc.)
- B. Pharmacist
- C. Friends
- D. Family
- E. Newspaper
- F. Internet
- G. Television
- H. Radio
- I. Books
- J. Brochures/Pamphlets/Posters
- K. Magazines
- L. Non-Profit Organization (i.e. Canadian Diabetes Association)
- M. I do not need this information
- N. Other:

16) When searching for information about personal care services (home care), where else would you look? (Choose ALL that apply)

- A. Health care provider (doctor, nurse, etc.)
- B. Pharmacist
- C. Friends
- D. Family
- E. Newspaper
- F. Internet
- G. Television
- H. Radio
- I. Books
- J. Brochures/Pamphlets/Posters
- K. Magazines
- L. Non-Profit Organization (i.e. Canadian Diabetes Association)
- M. I do not need this information
- N. Other:

17) When searching for information about home maintenance services (House cleaning, gardening, lawn care, etc.), where would you look first? (Choose one)

- A. Health care provider (doctor, nurse, etc.)
- B. Pharmacist
- C. Friends
- D. Family
- E. Newspaper
- F. Internet
- G. Television
- H. Radio
- I. Books
- J. Brochures/Pamphlets/Posters
- K. Magazines
- L. Non-Profit Organization (i.e. Canadian Diabetes Association)
- M. I do not need this information
- N. Other:

18) When searching for information about home maintenance services (cleaning, gardening, lawn care, etc.), where else would you look? (Choose ALL that apply)

- A. Health care provider (doctor, nurse, etc.)
- B. Pharmacist
- C. Friends
- D. Family
- E. Newspaper
- F. Internet
- G. Television
- H. Radio
- I. Books
- J. Brochures/Pamphlets/Posters
- K. Magazines
- L. Non-Profit Organization (i.e. Canadian Diabetes Association)
- M. I do not need this information
- N. Other:

19) When searching for information about transportation (bus, taxi, etc.), where would you look first? (Choose one)

- A. Health care provider (doctor, nurse, etc.)
- B. Pharmacist
- C. Friends
- D. Family
- E. Newspaper
- F. Internet
- G. Television
- H. Radio
- I. Books
- J. Brochures/Pamphlets/Posters
- K. Magazines
- L. Non-Profit Organization (i.e. Canadian Diabetes Association)
- M. I do not need this information
- N. Other:

20) When searching for information about transportation (bus, taxi, etc.), where else would you look? (Choose ALL that apply)

- A. Health care provider (doctor, nurse, etc.)
- B. Pharmacist
- C. Friends
- D. Family
- E. Newspaper
- F. Internet
- G. Television
- H. Radio
- I. Books
- J. Brochures/Pamphlets/Posters
- K. Magazines
- L. Non-Profit Organization (i.e. Canadian Diabetes Association)
- M. I do not need this information
- N. Other:

21) When searching for information about finances (pension plan, savings, welfare, etc.), where would you look first? (Choose one)

- A. Health care provider (doctor, nurse, etc.)
- B. Pharmacist
- C. Friends
- D. Family
- E. Newspaper
- F. Internet
- G. Television
- H. Radio
- I. Books
- J. Brochures/Pamphlets/Posters
- K. Magazines
- L. Non-Profit Organization (i.e. Canadian Diabetes Association)
- M. I do not need this information
- N. Other:

22) When searching for information about finances (pension plan, savings, welfare, etc.), where else would you look? (Choose ALL that apply)

- A. Health care provider (doctor, nurse, etc.)
- B. Pharmacist
- C. Friends
- D. Family
- E. Newspaper
- F. Internet
- G. Television
- H. Radio
- I. Books
- J. Brochures/Pamphlets/Posters
- K. Magazines
- L. Non-Profit Organization (i.e. Canadian Diabetes Association)
- M. I do not need this information
- N. Other:

23) Is there any other information that you feel that you need in order to stay in this community and maintain your quality of life into the future, that was not asked about here?

Appendix B: Interview Guide

1. As an older adult living in a rural community, what sorts of information do you need or think you'll need in the future in order to stay living in your home, [in this community]?
2. How do you feel about your ability to find this information [in the future or now]?
3. How do you think living in a rural community affects how you get information?
 - a. What sort of things make it difficult for you to find information [in this community]?
 - b. What sort of things make it easier for you to find information [in this community]?
4. Who do you think is or should be responsible for providing you or the community with [housing, health service, financial, home care, etc.] information?
5. What sort of things do you think can be done in order to make getting information easier for older adults in town? [Prompt: older adults in general]

Appendix C: Stakeholder Interview Guide

1. Rapport building: General discussion of occupation and working with older adults in rural communities. [Probe: What is your area of work? How long have you been working there? How long have you worked in a rural setting?]

Stakeholder interaction with older adults:

2. As someone who works with older adults in rural communities, what sorts of information are you commonly asked for?
3. What sorts of information do you feel that you are responsible for providing to older adults?

Available Information Sources:

4. What sort of information venues (or sources) are available to you and to rural older adults who wish to receive more information? [Probe: Health care, finance]
5. Do you feel that older adults receive enough information in order to maintain their quality of life in rural communities? [Probe: If not, what else do you feel they should receive information on? Who should be responsible for this?]

Impact of Rural:

6. How do you think living in rural communities affects how older adults find information? [Probe: What sort of things make it difficult? Easier?]
7. Do you have any suggestions for what could be done to make it easier/better for older adults to find information in rural communities?

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